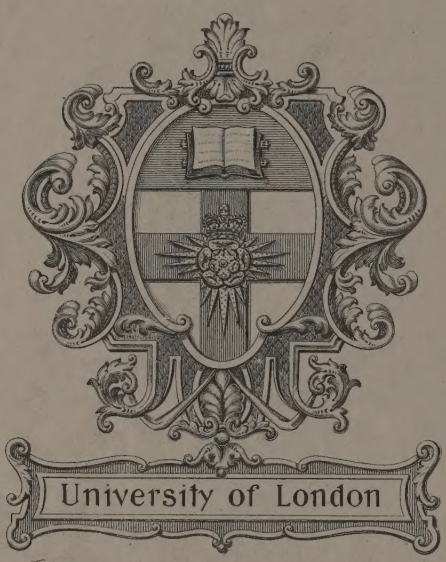
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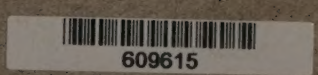
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ACCOUNTS AND PAPERS:

SIXTY-THREE VOLUMES.

—(30.)—

RAILWAYS—*continued.*

TRAMWAYS.

Session

31 *January* 1893——5 *March* 1894.

VOL. LXXIX.

1893-94.

ACCOUNTS AND PAPERS:

1893-94.

SIXTY-TYREE VOLUMES:—CONTENTS OF THE

THIRTIETH VOLUME.

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RETURN

(In pursuance of the Railway Returns (Continuous Brakes) Act, 1878)

BY

THE RAILWAY COMPANIES OF THE UNITED KINGDOM,

For the Six Months ending the 31st December 1892.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
PRINTED FOR HER MAJESTY'S STATIONERY OFFICE,
BY EYRE AND SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.

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1893.

[C.—7021.] *Price* 1*s.*

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Board of Trade,
May 1893.

COURTENAY BOYLE.

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NAME OF BRAKE.	Amount of Stock fitted as per Return for Six Months ended																NAME OF BRAKE
	30 June 1885.		30 June 1886.		30 June 1887.		30th June 1888.		30th June 1889.		30 June 1890.		30 June 1891.		30 June 1892.		31 December 1892.		
	Engines.	Carriages, &c.	Engines.	Carriages, &c.	Engines.	Carriages, &c.	Engines.	Carriages, &c.	Engines.	Carriages, and other Vehicles.	Engines.	Carriages, &c.	Engines.	Carriages, &c.	Engines.	Carriages, &c.	Engines.	Carriages, &c.	
Brakes which are returned by the Companies as complying with conditions in Board of Trade circular.																			*Brakes which are returned by the Companies as complying with conditions in Board of Trade circular.*
Automatic vacuum	1,783	9,949	2,185	11,714	2,581	13,883	3,588	17,750	5,259	23,339	6,319	27,314	7,521	31,519	8,112	36,964	8,539	38,776	Automatic vacuum.
Westinghouse automatic	1,523	13,620	1,706	14,519	1,804	14,652	1,915	14,838	2,041	15,553	2,312	16,345	2,410	17,158	2,570	18,515	2,622	19,049	Westinghouse automatic.
Total	3,396	24,190	3,980	26,853	4,386	28,578	5,504	32,630	7,301	38,931	8,631	43,693	9,931	48,711	10,682	55,479	11,161	57,825	Total.
Per-centage of total stock (complying)	49 per cent.	47 per cent.	52 per cent.	52 per cent.	52 per cent.	54 per cent.	61 per cent.	62 per cent.	75 per cent.	72 per cent.	83 per cent.	81 per cent.	86 per cent.	86 per cent.	95 per cent.	94 per cent.	97 per cent.	96 per cent.	Per-centage of total stock (complying).
Brakes which appear to comply with only some of the conditions in the circular.																			*Brakes which appear to comply with only some of the conditions in the circular.*
Chain brake (including the brake in use on North London Railway)	85	4,627	688	2,677	764	2,076	770	1,689	778	1,523	778	1,441	807	1,165	82	323	—	18	Chain brake (including the brake in use on North London Railway).
Fay's, Newall's, and Fay and Newall's	—	2,164	—	1,609	—	1,001	—	465	—	445	—	378	—	283	—	135	—	110	Fay's, Newall's, and Fay and Newall's.
Smith's vacuum	1,231	7,559	1,250	7,773	1,616	8,010	1,529	7,641	841	4,304	471	3,195	295	2,315	125	1,411	81	1,103	Smith's vacuum.
W. Parker Smith's automatic	—	3	—	3	—	3	—	3	—	3	—	3	—	3	—	3	—	3	W. Parker Smith's automatic.
Vacuum	537	2,532	657	4,548	970	5,650	560	4,925	205	3,896	100	2,733	103	1,559	93	168	92	120	Vacuum.
Total and per-centage	1,816 or 26 per cent.	16,862 or 32 per cent.	2,651 or 35 per cent.	16,385 or 31 per cent.	3,404 or 40 per cent.	17,090 or 32 per cent.	2,913 or 32 per cent.	15,073 or 29 per cent.	1,878 or 20 per cent.	10,521 or 20 per cent.	1,403 or 13 per cent.	8,100 or 15 per cent.	1,259 or 11 per cent.	5,693 or 10 per cent.	300 or 3 per cent.	2,040 or 3 per cent.	173 or 1·5 per cent.	1,354 or 2 per cent.	Total and per-centage.
Total stock (complying and partly complying) fitted with continuous brakes and per-centage	5,212 or 75 per cent.	40,852 or 79 per cent.	6,631 or 89 per cent.	43,238 or 83 per cent.	7,790 or 92 per cent.	45,668 or 86 per cent.	8,417 or 93·7 per cent.	47,703 or 91 per cent.	9,179 or 95 per cent.	49,452 or 92 per cent.	10,034 or 96 per cent.	51,793 or 96 per cent.	11,190 or 97 per cent.	54,404 or 96 per cent.	10,982 or 98 per cent.	57,519 or 97 per cent.	11,334 or 67 per cent.	59,179 or 98 per cent.	Total stock (complying and partly complying) fitted with continuous brakes and per-centage.
Total amount of stock *not* fitted with continuous brakes and per-centage	1,765 or 25 per cent.	10,707 or 21 per cent.	849 or 11 per cent.	8,552 or 17 per cent.	682 or 8 per cent.	7,140 or 14 per cent.	567 or 6·3 per cent.	4,853 or 9 per cent.	545 or 5 per cent.	4,312 or 8 per cent.	410 or 4 per cent.	2,263 or 4 per cent.	335 or 3 per cent.	2,071 or 4 per cent.	210 or 2 per cent.	1,608 or 3 per cent.	172 or 1·5 per cent.	1,406 or 2 per cent.	Total amount of stock *not* fitted with continuous brakes and per-centage.

NOTE.—The above return is prepared with the object of showing the progress made for several years. The figures which are given in gross include engines fitted with apparatus for working brakes and vehicles fitted with pipes or connections. For further division, *see* pp. 4, 6.

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ABSTRACT of the RETURNS showing the description of CONTINUOUS BRAKES in use on 31st December 1892 on the Railways in the UNITED KINGDOM, and the AMOUNT of STOCK and the MILEAGE run by Trains fitted with each description of Brake, &c., &c.

Name of Brake	Name of Railway Company.	Stock fitted.				Number of Thousands of Miles run by Trains fitted.	Proportion per cent.	
		Engines and Tenders.		Carriages, &c.			Of Vehicles fitted with Brakes.	Of Mileage run by Trains fitted.
		Fitted with Brakes.	Fitted with Apparatus for working the Brakes.	Fitted with Brakes.	Fitted with Pipes, &c.			
1. *The following Brakes are returned by the Companies as complying with the conditions specified in the Circular of the Board of Trade, dated 30th August* 1877. (*For copy of Circular see page* 121.								
Automatic Vacuum	Barry	7	—	37	—	33	100	100
	Brecon and Merthyr	8	—	37	2	87	86	95
	Cambrian	17	5	144	4	232	69	46
	Cheshire Lines	—	—	453	20	979	96	100
	Corris	1	—	3	—	2	37	39
	Festiniog	2	—	7	4	—	11	—
	Furness	45	—	248	45	379	67	100
	Great Northern	686	8	2,921	686	5,098	81	100
	Great Western	—	1,957	5,633	—	9,763	100	99
	Hull, Barnsley, and W. Riding J.	34	—	203	*25*	76	81*	41
	Lancashire and Yorkshire	856	—	3,519	—	5,150	100	100
	London and North-western	1,150	228	7,089	377	11,117	93	100
	L. and N.W. and Caledonian (West Coast Joint Stock).	—	—	381	—			
	London and South-western	544	22	3,132	182	4,999	94·5	100
	Manchester and Milford	3	3	6	2	20	35	44
	Manchester, Sheff., and Linc.	557	8	1,144	120	2,020	90·5	100
	Manchester South Junction and Altrincham.	11	—	133	—	119	100	100
	Maryport and Carlisle	14	—	66	11	99	86	100
	Mersey	9	9	97	3	150	97	100
	Metropolitan	45	—	72	14	83	19	8
	Midland	—	1,184	4,647	336	7,686	82	100
	Midland & South-western Junc.	—	7	25	16	114	61	100
	Neath and Brecon	2	—	11	—	14	100	95
	North-eastern	*6*	*24*	*103*	*602*	19	—	—
	North London	77	—	614	—	932	96	100
	North Staffordshire	40	—	289	—	676	68	100
	Pembroke and Tenby	1	—	—	—	—	—	—
	Pontypridd, Caerphilly, and Newport.	2	2	4	—	5	100	80
	Rhondda and Swansea Bay	9	—	37	1	29	97	100
	Severn and Wye and Severn Bridge.	5	—	17	14	33	55	100
	Somerset Joint Committee	—	58	178	—	315	100	100
	South-eastern	304	1	1,551	26	3,135	66	99
	Taff Vale	41	—	284	—	220	100	100
	Wirral	8	—	30	—	89	61	100
	Wrexham, Mold, & Connah's Quay	8	—	34	—	21	100	100
	Glasgow and South-western	64	—	742	—	1,053	67	60
	Highland	85	—	295	367	467	39	62
	Belfast and County Down	24	—	139	27	196	84	79
	Belfast and Northern Counties	61	—	243	32	448	88	95
	Cavan, Leitrim, and Roscommon Light.	8	—	130	5	52	96	100
	Clogher Valley	6	—	19	—	42	100	100
	Cork, Bandon, and South Coast	7	—	41	—	43	85	40
	Cork and Muskerry Light	5	—	19	6	40	27	100
	Dundalk, Newry, and Greenore	5	—	22	—	15	100	40
	Great Northern of Ireland	90	—	458	95	1,000	83	100
	Great Southern and Western	—	—	518	36	1,075	93·5	100
	Midland Great Western	57	—	296	76	659	80	100
	Tralee and Dingle	5	—	45	—	25	100	—
	Waterford and Limerick	24	—	65	56	147	39	41
	Waterford, Dungarvan, and Lismore.	2	—	—	—	—	—	—
	West Carbery	4	—	5	—	12	71·5	100
	West Clare	7	—	91	—	44	100	100
Westinghouse Automatic.	Colne Valley and Halstead	3	—	12	4	29	60	100
	East and West Junction	4	—	14	3	47	64	75
	Eastern and Midlands	19	—	57	87	166	34	72
	Great Eastern	514	—	3,832	3	6,232	100	100
	Hull, Barnsley, and W. Riding J.	12	—	23	25	105	9	58
	Isle of Wight	8	—	45	—	44	100	66
	Isle of Wight Central	4	—	7	1	34	12	35
	London, Brighton and S. Coast	862	—	2,751	63	3,863	98	100
	London, Chatham, and Dover	196	—	1,106	19	2,036	98	100
	Londonderry	3	—	21	—	20	100	100
	London, Tilbury, and Southend	36	—	305	6	463	95	100
	Metropolitan District	54	—	368	—	780	100	100
	Midland	24	—	231	428	3	5	—
	Midland, Scotch Joint Stock	—	—	85	—			
	North-eastern	585	—	3,365	2	6,313	100	100

* Excluding waggons fitted with pipes the proportion is 97 per cent.

Name of Brake.	Name of Railway Company.	Stock fitted. Engines and Tenders. Fitted with Brakes.	Engines and Tenders. Fitted with Apparatus for working the Brakes.	Carriages, &c. Fitted with Brakes.	Carriages, &c. Fitted with Pipes, &c.	Number of Thousands of Miles run by Trains fitted.	Proportion per cent. Of Vehicles fitted with Brakes.	Proportion per cent. Of Vehicles run by Trains fitted.
1. *The following Brakes are returned by the Companies as complying with the conditions specified in the Circular of the Board of Trade, dated 30th August 1877.* (*For copy of Circular see page* 121)—continued.								
Westinghouse Automatic—*cont.*	North Staffordshire	—	—	—	7	—	—	—
	N. Wales Narrow Gauge	2	—	4	—	—	—	—
	Rhymney	22	7	77	—	99	100	100
	West Lancashire	9	—	25	9	100	39	55
	Caledonian	338	—	2,308	82	3,653	97	99
	Glasgow and South-western	98	—	369	—	702	33	40
	Great North of Scotland	67	—	397	163	406	72	60
	North British	214	38	2,351	364	3,771	86	92
	Castlederg and Victoria Bridge	3	—	7	23	10	23	100
	Totals	7,624	3,537	53,934	3,891	87,888	89	96
2. *The following Brakes appear to comply with only some of the conditions specified in the Circular above mentioned.*								
Clark's Chain	Isle of Wight Central	—	—	3	1	—	8	—
Clark and Webb's	Bishop's Castle	—	—	4	—	—	67	—
	London, Tilbury, and Southend	—	—	8	2	—	2	—
Fay's	Brecon and Merthyr	—	—	4	—	4	9	5
	Lancashire and Yorkshire	—	—	5	—	—	—	—
Newall's	Lancashire and Yorkshire	—	—	2	—	—	—	—
	Highland	—	—	99	—	78	13	10
Walter Parker Smith's Automatic.	Liskeard and Caradon	—	—	3	—	4	50	100
Smith's Vacuum	Metropolitan	25	—	291	—	967	77	92
	South-eastern	—	—	169	384	—	7	—
	Dublin, Wicklow, and Wexford	51	—	210	33	424	85	92
	Sligo, Leitrim, and Northern Counties.	5	—	16	—	15	89	31
Vacuum	North Staffordshire	35	57	15	105	1	3	—
	Totals	116	57	829	525	1,493	1	1
Total Amount of Stock returned as FITTED with Continuous Brakes to 30th June 1892.		7,740 or 67 per cent.	3,594 or 31 per cent.	54,763 or 90 per cent.	4,416 or 7 per cent.	89,381 or 97 per cent.		
Amount of Stock FITTED with Continuous Brakes during the six months ending 30th June 1892.		496 or 4 per cent.	152 or 1 per cent.	3,202 or 5 per cent.	520 or 1 per cent.			
Amount of Stock NOT FITTED with Continuous Brakes		3,766 including 3,594 engines fitted with apparatus for working the continuous brake, or 33 per cent.		5,822 including 4,416 vehicles fitted with pipes and connections only, or 9·6 per cent.		Thousands of miles run by trains *not* fitted. 2,534 or 3 per cent.		

NOTE.—The engines entered above as fitted with apparatus for working the continuous brake, have in most instances steam brakes which are worked in connexion with the continuous brake.

No. 1.

RETURN for the Six Months ending on the 31st day of December 1892, of the AMOUNT running on

NAME OF RAILWAY COMPANY.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	AMOUNT OF STOCK FITTED WITH			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages.	
					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.
ENGLAND AND WALES.						
BARRY - -	Smith's automatic vacuum brake.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	7	—	37	—
BISHOP'S CASTLE -	Webb's chain -	(1.) Yes, and applied by guard. (2.) Yes. (3.) No, only to passenger vehicles and guard's van. (4.) Yes. (5.) Yes. (6.) Yes.	—	—	4	—
BRECON AND MERTHYR TYDFIL JUNC.	Fay's - -	(1.) By guard. (2.) No. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	—	—	4	—
	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Part of the material is durable, parts are not. (6.) *See* rules.	8	—	35	—
CAMBRIAN - -	Automatic Vacuum -	(1.) Yes. (2.) Yes, (3.) Yes. (4.) Yes. (5.) Yes. (6.) It is believed that in practice the brake is applied at all stations except terminals.	17	5	124	3
CHESHIRE LINES COMMITTEE.	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	Supplied by M. S. & L. and Midland Railway Companies.		397	—
COLNE VALLEY AND HALSTEAD.	Westinghouse automatic.	(1.) Guard and driver. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	3 tank	—	10	4
CORRIS - - -	Vacuum Automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	1	—	3	—
EAST AND WEST JUNCTION.	Westinghouse automatic brake. Vacuum brake -	(1.) Yes. (2.) Yes. (3.) Yes, if fitted. (4.) Yes, when required. (5.) Yes. (6.) Yes.	4	—	9	—
EASTERN AND MIDLANDS.	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes, except on Yarmouth line local trains. (5.) Yes. (6.) *See* rules.	19	— *(4 also fitted with simple and automatic vacuum for train only.)*	51 *24 fitted with Clark's chain brake also.*	26 *1 of which is fitted with vacuum brake complete and 1 with pipe only.*
*FESTINIOG - -	Automatic Vacuum -	——	2	—	5*	4*
FURNESS -	Vacuum automatic - (Smith's.)	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	45	—	191	2
GARSTANG AND KNOT END.	No continuous brakes	Only one carriage in regular use, to which a hand brake, reaching each wheel, is applied at every stoppage.	—	—	—	—
GOLDEN VALLEY -	No continuous brakes	——	—	—	—	—

NOTE.—*In Return No. 1 the amount and description of stock fitted with two or more descriptions of continuous*

* The Automatic Vacuum Brake is now being fitted to the rolling stock,

No. 1.

and Description of Continuous Brake Power in use on the Passenger Trains Railways.

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				
Vehicles.								
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.		Special Rules under which the Continuous Brakes are worked.
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
—	—	—	—	2	—	—	—	—
—	—	2	2	—	—	—	—	Same as London and North-Western, *see* Appendix.
—	—	2	—	—	—	—	—	—
2	2	—	—	—	—	1	—	Automatic Vacuum Brake Company's rules.
20	1	32	61	4	—	19	—	— For special rules *see* Appendix.
56	20	—	—	—	—	72	—	—
2	—	—	4	—	—	3	1	Usual Westinghouse rules.
—	—	1	5	—	—	1	—	No special rules yet drawn up, beyond that the Automatic Brake is not to be used for stopping at terminal stations except under emergency.
5	2 horse boxes 1 hound van.	6	5	—	—	—	1 hound van	—
6	61 (*30 also fitted with vacuum pipes.*)	5	23	—	—	—	6	The rules of the Westinghouse Brake Co. (Limited) and of the Vacuum Brake Company, Limited, *see* Appendix.
2*	—	6	49	2*	—	7*	4*	—
41 vans 16 fish trucks.	12 carriage trucks, 21 horse boxes, 10 meat vans	—	79	1	—	15	—	— For special rules *see* Appendix.
—	—	2	4	—	—	—	—	—
—	—	3	8	—	—	—	—	—

brakes or pipes and connections are printed in italics and not included in total on pp. 26 *and* 27. For Summary, see p. 28.
but on account of the special character of the stock great difficulty has been met with in carrying it out.

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Number of Passenger Carriages. Fitted only with Chains or Pipes and Connections for connecting the Brake.
Great Eastern -	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	514 engines, tenders. *37 are also fitted with apparatus for applying vacuum brake.*	—	2,897 *5 of these are fitted with the vacuum brake gear complete and 52 with vacuum pipes.*	
Great Northern -	Vacuum automatic -	(1.) The brakes are instantaneous in action and capable of being applied by driver and guards. (2.) No. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	686 engines, 538 tenders.	8 engines, 8 tenders.	2,051 G.N. 163 East Coast Joint Stock, 3 Pullman cars.	20 G.N.
	Westinghouse automatic.	*As above* - - - -	—	—	*39 G.N., 163 East Coast Joint Stock. 2 Pullman cars.*	*197 G.N. 1 Pullman car.*
Great Western	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	— 1,910 of the above engines are fitted with steam brakes worked as part of the continuous brake system.	1,957	4,367	—
	Fay's hand - -	(1.) Applied by guard only. (2.) No. (3.) No. To four or five carriages only. (4.) Yes. (5.) Yes. (6.) Yes.	—	—	—	—
Hull, Barnsley, and West Riding Junction.	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	12 engines, 7 tenders.	—	23	—
	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	34 engines, 31 tenders.	—	62	—
Isle of Wight -	Westinghouse (automatic quick acting).	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes.	8	—	36	—
Isle of Wight Central.	Clark's Chain (One train.)	(1.) Applied by guard only. (2.) Not self-acting. (3.) Applied to every vehicle of train. (4.) In daily working. (5.) Materials durable and easily maintained. (6.) Yes.	4	—	7	1
	Westinghouse automatic.	(1.) Instantaneous in action applied by guard and driver. (2.) Self-acting. (3.) Each vehicle of train. (4.) Daily working. (5.) Durable and easily maintained. (6.) Yes.	—	—	3	1
Lancashire and Yorkshire.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes, excepting the india-rubber connections and diaphragms, and sleeves in engines. (6.) Yes.	219 tender, 219 tank, and 418 goods engines for ordinary and special passenger work if required.	—	2,376 and 673 duplicates.	—
	Fay's - -	(1.) Yes, and can be made capable of being applied by driver and guard. (2.) No. (3.) Yes, but they are never applied to more than 5 carriages of a train. (4.) Yes. (5.) Yes. (6.) Yes.	—	—	2	—
	Newall's - -		—	—	—	—

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				
Vehicles.						Number of Passenger Carriages and other Vehicles used for Passenger Trains.		Special Rules under which the Continuous Brakes are worked.
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.							
935 *640 of these are also fitted with vacuum pipes.*	3	—	—	21 engines, 24 tenders.	—	83	—	Drivers are not to rely on continuous brakes when approaching junctions or terminal stations.
290 G.N. 23 East Coast Joint Stock, 391 horse boxes, carriage trucks, &c.	40 horse boxes, 21 carriage trucks, 3 parcel, &c. vans, 602 fish, &c. waggons.	—	—	29 engines, 25 tenders.	—	56 G.N. passenger carriages, 3 luggage, &c. vans, 62 horse boxes, &c.	211 waggons	*See* Appendix. The brake is used for every stoppage.
63 luggage, &c., vans. 23 East Coast Joint Stock	*512 vehicles.*	—	—	—	—	*5 passenger carriages, 1 luggage van, and 2 Pullman cars.*	*9 passenger carriages and 36 horse boxes, carriage trucks, &c.*	—
		Note.—*The stock shown as fitted with the Westinghouse brake is included above.*						
1,266	—	—	—	—	71	130	(Reduced by 63.)	For regulations *see* Appendix.
—	—	—	—	—	—	(Reduced by 9.)	—	—
—	25	1 engine, 1 tender.	—	—	—	—	—	—
141	25	—	—	18 engines, 15 tenders.	—	135	—	—
9	—	—	—	8	—	45	—	—
—	—	3	25	1	—	—	—	—
—	—	—	—	—	—	—	—	—
410 and 60 duplicates. (14 of these vehicles are fitted with Westinghouse pipes only.)	—	2 (These engines are fitted with ejectors and train pipes, thus enabling them to apply the brake on the train.)	21	27 passenger tank engines, and 10 goods tender engines.	—	16 and 30 duplicates.	—	For copy of printed instructions, *see* Appendix.
3	—	—	—	—	—	—	—	Are not allowed to skid.
2	—	—	—	—	—	—	—	

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Number of Passenger Carriages. Fitted only with Chains or Pipes and Connections for connecting the Brake.
Lancashire and Yorkshire—*cont.*	Automatic vacuum and Westinghouse.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes, except india-rubber connections. (6.) Yes.	—	—	27	—
					Note.— *54 carriages fitted with complete vacuum automatic brake gear, also the Westinghouse pipe, are included in the number of vehicles fitted with the vacuum automatic brake.* 72 waggons fitted with automatic vacuum brake gear complete and 11 waggons fitted with automatic vacuum pipes only.	
Liskeard and Caradon.	WalterParkerSmith's automatic.	(1.) Yes, by guard only. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	—	—	3	—
London and North-Western.	Automatic vacuum	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	1,150 788 engines and tenders and 362 tank engines are fitted with continuous brakes which can be actuated by the guard or in case of a break-away will be applied automatically, and *117* engines are fitted with a separate steam brake, which, however, is actuated by the same handle used for applying the vacuum brake.	228	5,131 (*274 of these are also fitted with the Westinghouse brake.*)	—
London and North-Western and Caledonian. (West Coast.)	Automatic vacuum	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	See Note A.		244 C.	—
London and South-Western	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	544 engines and 392 tenders.	22 engines	2,110	72

* *Exclusive of the engines also fitted for working automatic vacuum trains.*

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
Vehicles.						Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.							
72	—	—	—	—	—	*92* *Note.*—The vehicles fitted with through pipes only are included in the number *not* fitted with continuous brakes.	—	—
—	—	3	3	—	—	—	—	—
1,958 (*19 of these are also fitted with the Westinghouse brake.*)	377	*228* (*97* engines and tenders, and *131* tank engines.) Out of this number *117* are fitted with power brake. All the above engines, except *16*, are fitted with screw reversing gear, which enables the driver, when the engine is running at speed, to bring the whole power of the engine on the opposite side of the piston, and thus acts as a powerful brake.	—	180	—	502	—	For special rules *see* Appendix.
137 C.	—	See Note A.		See Note A.		3	—	Same as L. & N.W.
		Note A.—There are no joint engines and tenders, the carriages being worked in the ordinary trains over each Company's line by its own engines and tenders. Note B.—This Return applies to West Coast passenger carriages and other vehicles, so far only as they run over the London and North-western Railway to or from Carlisle. The Caledonian Company will make a separate return of the same stock in respect of their railway north of Carlisle. Note C.—*All these vehicles are fitted with the Westinghouse automatic pressure brake also.*						—
1,022	110	1 engine in consequence of the failure of the regular engine.	—	28 engines and 19 tenders.	7 engines	160	—	For instructions *see* Appendix.

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages.	
					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.
London, Brighton, and South Coast.	Westinghouse continuous automatic air.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	243 tank,* 119 tender. (These include a number of goods engines which occasionally work passenger trains.)	—	2,153	21
London, Chatham, and Dover.	Westinghouse automatic air.	(1.) The brakes are practically instantaneous in action, and can be applied by engine-driver and guards. (2.) Yes. (3.) Yes. (4.) Yes. (5.) The materials generally are of a durable character, except the india-rubber coupling connections. (6.) Yes.	104 engines and tenders, 92 tank engines. (*8 of the engines and tenders are also fitted with apparatus for applying the automatic vacuum brake.*)	—	909 (*12 also fitted with automatic vacuum brake complete, and 5 with pipes only*).	—
Londonderry -	Westinghouse automatic.	(1.) Instantaneous in action. Can be applied by driver and guard. (2.) Yes. (3.) Can be applied to every vehicle of a train. (4.) In daily use. (5.) The materials are of the best kind and kept in order. (6.) Yes.	3 tank engines.	—	19	—
London, Tilbury, and Southend.	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	36	—	297	—
	Clark and Webb's chain.	(1.) Applied by guard. (2.) No. (3.) Yes. (4.) No. (5.) Yes. (6.) Yes.	—	—	8	2
Manchester and Milford.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	3	3	6	1
Manchester, Sheffield, and Lincolnshire.	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	229 and 328† goods engines.	8	1,004	6
Manchester South Junction and Altrincham.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	11	—	131	—

* Six fitted with automatic vacuum brake to work passenger trains transferred by other Railway Companies.
† Available for passenger trains as occasion may require.

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
Vehicles.						Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.							
598	42	—	—	6 tanks Brake taken off 1 tank engine.	—	51 Brakes taken off 26 vehicles.	Pipes taken off 25 vehicles.	*See* Appendix.
197 (*21 vehicles are also fitted with automatic vacuum brake pipes*).	2 lamp carriages, 17 waggons.	—	—	—	—	—	—	For special rules *see* Appendix.
2 vans	—	—	—	—	—	—	—	Ordinary rules.
8	6	—	—	1	—	—	—	For special rules *see* Appendix.
—	—	—	—	—	—	—	—	—
—	1	3	9	—	—	1	—	Automatic Vacuum Brake Rules.
140	114	—	—	42	—	33	—	—
2	—	—	—	—	—	1	—	The engine-driver must not depend entirely upon the action and power of the brake, but when approaching terminal stations or junctions must have his train so well under control, that it may be brought to a standstill with the hand brake without the use of the vacuum automatic brake, except in cases of emergency. Guards must be at their hand brakes when passing the distant signal for a terminal station, and by the application of their brake assist the drivers to pull up the trains wherever necessary. Guards must keep a vigilant look out for signals, &c., as usual, and be prepared to use their hand brake or the vacuum automatic brake, if necessary.

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Enginesand Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Number of Passenger Carriages. Fitted only with Chains or Pipes and Connections for connecting the Brake.
Maryport and Carlisle.	Automatic vacuum brake.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) The brake is used for every stoppage except at terminal stations.	14 engines. 14 tenders.	—	52	—
Mawddwy - -	No continuous brakes.	——	—	—	—	—
Mersey - -	The vacuum continuous automatic brake.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	9 tank engines.	9 tank engines fitted with a steam brake arranged to work automatically with continuous brakes.	97	—
Metropolitan -	Smith's vacuum -	(1.) Practically instantaneous, and capable of being applied by driver only. (2.) No. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	25 tank engines.	—	291	—
	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	45 tank engines.	—	65	—
Metropolitan District.	Westinghouse automatic brake.	(1.) Yes. Can be applied by driver and guard. (2.) Yes, in case of breakaway. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Not depended upon when entering a terminus.	54 engines	—	368	—
Midland - -	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Some of the materials are durable, others not. (6.) Yes.	—	1,184 (All have automatic steam brakes to engine and tender wheels combined with vacuum automatic brake for train.)	3,030	1
	Westinghouse automatic air.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Some of the materials are durable, others not. (6.) Yes.	24 (*All are fitted also with apparatus for working the vacuum automatic brake.*)	—	161	38
	Westinghouse automatic air brake on Midland Scotch Joint Stock.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Some of the materials are durable, others not. (6.) Yes.	—	—	65	—
Midland and South-Western Junction.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	—	7	25	—
Neath and Brecon	Automatic vacuum.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) No. (5.) Yes. (6.) Yes.	2	—	10	—

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
Vehicles.						Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.							
10 brake vans. 4 horse boxes.	2 horse boxes. 6 carriage trucks. 3 cattle waggons.	—	—	—	—	—	3 cattle waggons.	Automatic brake not to be used for stopping at terminal stations.
—	—	2	4	—	—	—	—	—
—	2 vans 1 truck.	—	—	2 tank engines	—	—	—	*See* Appendix.
—	14 gas-holder trucks.	—	—	—	—	—	—	*See* Appendix
4 brake vans 3 horse boxes.	—	—	—	—	—	8 passenger carriages and 3 horse boxes.	—	—
—	—	—	—	—	—	—	—	*See* Appendix
1,617 (including 65 goods vehicles).	335 (including 334 goods vehicles.)	—	—	—	64 (all fitted with automatic steam brake to engine and tender wheels combined with vacuum automatic brake for train.)	139 (including 61 goods vehicles).	9 goods vehicles.	*See* Appendix.
70	390 (including 12 goods vehicles).	—	—	—	—	55	45	*See* Appendix
20	—	—	—	—	—	—	—	—
—	16	—	—	—	—	—	—	—
1	—	8 engines	—	1 engine	—	—	—	—

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with: Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.
North-Eastern	Westinghouse automatic.	(1.) Practically instantaneous, and can be applied by either engine-driver or guards. (2.) It is self-acting. (3.) It is capable of being applied to every vehicle of a train. (4.) It is in regular use in daily working. (5.) The materials used are generally of a durable character, easily maintained, and kept in order. (6.) The brake is used for every stoppage, except when entering a platform with a buffer-stop at the end or at which another train is standing.	437 engines, 252 tenders. 148 goods engines. *See* statement below.	—	2,467	—
	Vacuum automatic brake.	*(1.) Not instantaneous, and can be applied by either engine-driver or guards. (2.) It is self-acting. (3.) It is capable of being applied to every vehicle of a train. (4.) It is in occasional use. (5.) The materials are to a considerable extent of a durable character, easily maintained and kept in order. (6.) The brake is used for every stoppage, except when entering a platform with a buffer-stop at the end or at which another train is standing.*	*6 engines, 6 tenders.*	*24 engines, 24 tenders.*	*83*	*95*
			Note.—*The stock fitted with this automatic vacuum brake is included in stock fitted with Westinghouse brake.*			
North London -	Automatic vacuum.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	62 standards 15 duplicates.	—	*Standards.* 1st class - 110; 2nd class - 118; 3rd class - 136; Composites - 39; Brake-vans - 80; 483. *Duplicates.* 1st class - 20; 2nd class - 37; 3rd class - 47; Composites - 9; Brake-vans - 18; 131.	
North Staffordshire.	Vacuum - -	(1.) Yes. Driver only. (2.) No. (3.) Yes. (4.) Yes. (5.) Yes. (6.) *See* rules.	35 tender engines, with vacuum brake on tender and steam brake on engine.	57 (31 tank engines and 26 goods tank engines) fitted with steam brakes.	6	57

Supplementary Statement to the above No. 1 Return.—The Company have 148 goods engines which run excursion and other occasional passenger trains, and these are fitted with the Westinghouse brake gear complete (11 of them have been fitted during the half year).

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				
Vehicles.								
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.		Special Rules under which the Continuous Brakes are worked.
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
898	2	—	—	5 engines, 1 tender.	—	42 carriages	—	*See* Appendix.
		Note.—The carriages above referred to do not include those belonging jointly to the East Coast companies which mainly compose the express and fast trains running between London and Scotland, and which are fitted with continuous brakes.						
18	*507*	—	—	—	*1 engine, 1 tender.*	*12 carriages*	—	*See* Appendix.

The Company have 1,348 vehicles (which are not included in their passenger stock, but which run occasionally with passenger trains) fitted with brakes or brake connecting pipes, as below :—

11 with Westinghouse brake gear complete.

1,337 with Westinghouse brake connecting pipes, and *1,131 of these are also fitted with the automatic vacuum brake connecting pipes*

1,348 Total.

—	—	—	*Duplicates.* 1 brake van (used singly as servant's carriage.) Now being fitted. *Standards.* 1st class 1 2nd class 7 3rd class 1 Compos. 7 Bke. vans 4 20 *Duplicate.* 1st class 1 3rd class 2 Compos. 3 6	*Standards.* 19 *Duplicates.* 4	—	*Standards.* 1st class 33 2nd class 52 3rd class 69 Compos. 28 Bke. vans 33 215 *Duplicates.* 1st class 11 2nd class 14 3rd class 34 Compos. 11 Bke. vans 11 81	—	*See* Appendix.
9	48	—	23 cattle waggons.	—	6 goods tank engines (steam brake on engines).	—		*See* Appendix.

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Number of Passenger Carriages. Fitted only with Chains or Pipes and Connections for connecting the Brake.
North Staffordshire—*cont.*	Westinghouse -	(1.) Yes. Driver only. (2.) No. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	—	—	—	7
	Automatic vacuum -	(1.) Yes; applied by driver and guard. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	40 engines and tenders with steam brake on engine and automatic brake on tender.	—	212	—
North Wales Narrow Gauge.	Westinghouse automatic continuous brake is in process of being fitted to the rolling stock.	(1.) Yes. (2.) Yes. (3.) All vehicles are not yet fitted. (4.) Not yet in regular use. (5.) Yes. (6.) When in use are used for every stoppage.	2	—	4 (2 of these have each a compartment for guard.)	—
Pembroke and Tenby.	Automatic vacuum brake.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	1 engine, 1 tender.	—	—	—
Pontypridd, Caerphilly, and Newport.	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) (5.) Yes. (6.) Yes.	2	2	3	—
Ravenglass and Eskdale.	No continuous brakes.	——	—	—	—	—
Rhondda and Swansea Bay.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	9 tank	—	36	—
Rhymney - -	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	16 tank engines, 2 tender engines. 4 tender engines. Brake applied to tender wheels. Steam brake on engine wheels.	7	59	
Severn and Wye and Severn Bridge.	Vacuum automatic -	(1.) Yes (2.) Yes. (3.) Yes, except in the case of mixed trains. (4.) Yes. (5.) Yes. (6.) Yes.	5 (also fitted with hand brake).	—	16	2

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
Vehicles.						Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.							
—	—	—	—	—	—	—	4	—
77	—	—	—	—	4 goods tender engines (steam brake on engine).	48	25 cattle waggons.	—
—	—	1 (in process of being fitted),	6	—	—	—	—	—
—	—	6 engines, 4 tenders.	23	1 engine, 1 tender.	—	—	—	—
1	—	—	—	—	—	4	—	—
—	—	2	4	—	—	—	—	—
1 horse-box	1 low-sided carriage truck (fitted with hand-brake).	—	—	1 tank	—	—	—	—
8 partly brake vans and partly 3rd class. 8 brake vans. 1 carriage truck, 1 horse box.	—	—	—	3	—	2 (horse box and carriage truck).		Guards and drivers are at all times to satisfy themselves that the brake is in proper order, and to make use of the continuous brake on every occasion for regulating the stoppage of trains. On approaching terminal stations the continuous brake must only be used in cases of emergency, the driver taking care to reduce the speed of his train so that it can be brought to a stand by the hand brake of the engine or tender alone.
1	12	—	—	—	—	—	—	The ordinary regulations as to application of the vacuum.

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages.	
					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.
Somerset and Dorset Joint Committee	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Some of the materials are durable, others not. (6.) Yes.	—	58 (including 16 tank engines, all fitted with automatic steam brakes to engine and tender wheels combined with automatic vacuum brake for train.)	130 (*5 have connecting pipes for Westinghouse brake.*)	—
South-Eastern -	Automatic vacuum -	(1.) Instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Self-acting. (3.) Yes. (4.) Yes. (5.) Some durable, others not very durable. (6.) Not used at terminal stations.	304 engines, 209 tenders.	1 engine	1,315	61 (*besides 35 vehicles also fitted with simple vacuum brake.*)
	Smith's vacuum -	(1.) Nearly instantaneous in action, and capable of being applied by engine-driver only. (2.) Not self-acting. (3.) Yes. (4.) Yes. (5.) Some durable, others not very durable. (6.) Not used at terminal stations.	—	—	114	156 *excluding 915 vehicles also fitted with automatic brake.*
Southwold - -	No continuous brakes	——	—	—	—	—
Taff Vale - -	Vacuum automatic -	(1.) Yes (2.) Yes. (3.) Yes. (4.) Yes (5.) Yes. (6.) 20 inches of vacuum is maintained and for station stops this is worked down to 13 inches, the balance being available for emergencies.	41 engines, 7 tenders.	—	217	—
Talyllyn - -	No continuous brakes.	——	—	—	—	—
West Lancashire -	Westinghouse automatic continuous.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	9 engines 6 tenders.	—	18	—
West Somerset Mineral.	No continuous brakes.	——	—	—	—	—
Wirral - - -	Automatic vacuum brake.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	8	—	20	—
Wrexham, Mold, and Connah's Quay.	Automatic vacuum brake.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	8	—	33	—
		Total for England and Wales	6,403	3,556	34,976	485

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
Vehicles.						Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.							
48	—	—	—	—	—	4	—	*See* Appendix.
236	*304 (besides 50 vehicles also fitted with simple vacuum brake.)*	—	160 (exclusive of 280 fitted with through pipes for connecting the automatic brake *250* of the 280 are also fitted with through pipes for simple vacuum brake *and included in the quantity shown below.*	15 engines, 9 tenders.	—	241	—	—
55	228 *(besides 74 vehicles fitted with automatic brake.)*	—	56 (384 also fitted with pipes for connecting the simple brake).	—	—	—	128	*See* Appendix.
—	—	2	26	—	—	—	—	—
67	—	—	—	5	—	2 (gas tanks).	—	—
—	—	2	4	—	—	—	—	The brake is used for every stoppage.
7	9	3	30	—	—	—	—	
—	—	1	3	—	—	—	—	—
10	—	—	19	—	—	—	—	—
1	—	—	—	—	—	—	—	The usual rules for working automatic vacuum brake.
10,902	2,562	94	713	436	152	2,273	437	

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Enginesand Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Number of Passenger Carriages. Fitted only with Chains or Pipes and Connections for connecting the Brake.
SCOTLAND.						
Caledonian - -	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) *See* rules.	278 tender and 60 tank engines.	—	1,545	—
	Vacuum and Westinghouse combined.	*(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes.* (6.) *See rules.*	—	*9 engines and tenders fitted to work automatic vacuum.*	*75*	—
Glasgow and South-western.	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) No restriction regarding use of brakes except when stopping at terminal stations.	94 and 4 tank	*(Of the foregoing 90 engines and tenders and 4 tank engines are fitted to work automatic vacuum braked trains.)*	319 *(25 of these are also fitted with the automatic vacuum brake).*	—
	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes (4.) Yes. (5.) Yes. (6.) No restriction regarding use of brakes except when stopping at terminal stations.	48 and 16 tank	—	458	—
Great North of Scotland.	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes, except at terminal stations.	62 and 5 tank	—	237	15
Highland -	Newall's continuous hand.	(1.) Not instantaneous in action, and can only be applied by guard. (2.) No. (3.) No. (4.) Yes. (5.) Yes. (6.) Yes.	—	—	60	—
	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	85	—	218	9
	Westinghouse -	*(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.*	—	*1*	*23*	*9*
North British -	Westinghouse automatic air.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	214	38	1,950	5
Portpatrick and Wigtownshire Joint Committee.	*From 26th November to 31st December 1892 inclusive the stock working on these railways has been provided to the Board of Trade supplied by those Companies, except*		—	—	—	—
		Total for Scotland - -	866	38	4,787	29

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
Vehicles.						Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tender (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.							
763 brake-vans, horse-boxes, &c.	82 brake vans, horse-boxes, &c.	—	—	7 tender and 2 tank.	—	160 carriages, 128 brake-vans, &c.	—	*See* Appendix.
470	*15*	—	—	*2 tender engines.*	—	*2 carriages, 93 brake-vans, &c.*	—	—
50 (*Of these 12 brake vans are also fitted with the automatic vacuum brake.*)	—	—	—	—	—	3	—	—
284	—	—	—	4	—	11	—	*See* Appendix.
160	148	6 4 of these are tender engines fitted with steam brake applied to 4 coupled wheels of engine.	38	4	—	110	—	*See* Appendix.
39	—	—	—	—	—	—	—	—
77	358	11	—	7	—	63	—	—
11	*108* (*7 complete and 101 with vacuum brake piping*).	—	—	—	—	—	50	—
401	359	—	8	13	(7 taken off)	254	(27 taken off)	*See* Appendix.
by the Caledonian and Glasgow and South-Western Railway Companies, is all fitted with continuous brakes, and included in the return								
—	4	*1	*1	—	—	—	—	—
1,774	951	18	47	37	—	729	50	

* This engine and carriage working on the Garliestown branch, a distance of 78 chains. Speed of trains restricted to 10 miles an hour. Trains consist of engine and brake carriage, which are now being fitted with continuous brakes.

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Enginesand Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Number of Passenger Carriages. Fitted only with Chains or Pipes and Connections for connecting the Brake.
IRELAND.						
Ballycastle -	No continuous brakes.	—	—	—	—	—
Belfast and County Down.	Vacuum automatic -	(1.) to (5.) Yes. (6.) Yes, except at terminal stations.	24 engines. 14 tenders.	—	129	—
Belfast and Northern Counties.	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes, except at terminal.	44 engines and 17 goods engines for ordinary and special passenger work if required.	—	207	2
Bessbrook and Newry.	Continuous brakes not adaptable to electric cars.	—	—	—	—	
Castlederg and Victoria Bridge.	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes, when exclusively passenger. (4.) Yes. (5.) Yes. (6.) Yes.	3	—	5	—
Cavan, Leitrim, and Roscommon Light.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	8	—	12	—
Clogher Valley -	Automatic vacuum -	(1.) to (6.) Yes - - -	6	—	13	—
Cork and Macroom Direct.	Vacuum automatic -	—	—	—	—	—
Cork and Muskerry Light.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes, to all carriages used for the conveyance of passengers. (4.) Yes. (5.) Yes. (6.) Yes, except terminals.	5	—	19	—
Cork, Bandon, and South Coast.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) No. (4.) Yes, on some trains. (5.) Yes. (6.) Yes, except for terminals.	7	—	31	—
*Cork, Blackrock, and Passage.	No continuous brakes.	—	—	—	—	—
Donegal, Section I., Strabane to Stranorlar.	—	—	Engine power supplied by Great Northern Railway Company (Ireland), whose engines are fitted with automatic brakes.		—	—
Donegal, Section II., Stranorlar to Donegal.	—	—	—	—	—	—
Dublin, Wicklow, and Wexford.	Simple vacuum brake	(1.) Instantaneous, by driver only. (2.) No. (3.) Yes, all but vehicles fitted with pipes. (4.) Yes. (5.) Yes. (6.) Yes, except at terminal stations.	28 tank and 23 tender engines.	—	177 carriages and 27 vans.	15 carriages and 3 vans.
Dundalk, Newry, and Greenore.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	5	—	12	—

* Trains will be fitted and worked with the automatic vacuum brake after 31st March 1893.

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
Vehicles.						Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.							
—	—	3	11	—	—	—	—	—
1 carriage truck, 9 brake-vans.	8 horse-boxes and 19 waggons.	—	—	8 engines. 5 tenders.	—	30 carriages and 2 brake-vans.	17 waggons	As issued by the Vacuum Brake Company, Limited *See* Appendix.
36	30	2	1	4 engines	—	1 and 11 altered from pipes to brakes.	—	
—	—	2 electro-motive passenger cars.	25	—	—	—	—	—
2 vans	23 goods waggons.	—	—	—	—	—	—	—
110 waggons, 2 horse-boxes, 6 brake-vans.	3 ballast, 2 timber trucks.	—	—	—	—	—	—	*See* Appendix.
6 brake vans	—	—	—	—	—	—	—	—
1 composite van	—	4 tank engines	13 carriages, 3 brake-vans, 83 waggons.	—	—	1 van	—	*See* Appendix.
—	6 vans (fitted also with hand brakes).	—	66 covered and open goods waggons.	1	—	2 carriages	2 vans	—
10 vans	—	4	7	2	—	6	—	*See* Appendix.
—	—	3 tank engines	14	3	—	3	—	—
—	—	—	5 carriages and 29 waggons.	—	—	—	—	—
—	—	3	11 carriages and 48 waggons.	—	—	—	—	—
2 horse boxes, 2 carriage trucks, and 2 perishable goods vans.	18 horse boxes and 2 perishable goods vans.	—	3 carriage trucks.	—	—	2 goods brake-vans and 2 perishable goods vans.	—	—
10	—	—	—	—		—	—	—

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Enginesand Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Number of Passenger Carriages. Fitted only with Chains or Pipes and Connections for connecting the Brake.
Great Northern -	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	90	—	396	—
Great Southern and Western.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes, except terminals.	92 15 goods engines.	—	326	—
*Londonderry and Lough Swilly.	No continuous brakes.	——	—	—	—	—
Midland Great Western of Ireland.	Automatic vacuum -	(1.) Instantaneous in action. Applied by driver and guards. (2.) Yes. (3.) Yes, except to those fitted with pipes only. (4.) Yes. (5.) Yes. (6.) Yes, except at junctions and terminals.	57 automatic	—	172	—
Sligo, Leitrim, and Northern Counties.	Smith's vacuum -	(1.) Yes, applied by drivers only. (2.) No. (3.) Yes, if all are coupled. (4.) Yes. (5.) Yes. (6.) Yes.	5	—	15	—
Tralee and Dingle Light.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes.	5	—	10	—
Waterford and Central Ireland.	No continuous brakes.	——	—	—	—	—
Waterford and Limerick.	Automatic vacuum -	*See* copy Rules - - -	24	—	42	—
Waterford and Tramore.	No continuous brakes.	——	—	—	—	—
Waterford, Dungarvan, and Lismore.	Automatic vacuum -	——	2 engines and tenders.	—	—	—
West Carbery -	Automatic vacuum -	(1.) Instantaneous. Driver only. (2.) Yes. (3.) Yes, to the carriages, not to goods or cattle trucks. (4.) Yes. (5.) Yes. (6.) Yes, also on gradients while running.	4	—	5	—
West Clare -	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Not at terminals.	7 tank.		18	—
		Total for Ireland - -	471	—	1,616	20
		† Total for the United Kingdom	7,740	3,594	41,739	534

* All the engines, passenger carriages, and brake-vans are being fitted with the automatic vaeuum brake.

† Note.—These totals are the numbers of engines and carriages returned by the railway companies as fitted with continuous brakes. It will be observed, however, that some of the brakes so returned but very imperfectly fulfil that designation.

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
Vehicles.								
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
62	95	—	—	—	—	62	—	—
192	36	—	—	—	—	19	—	*See* Appendix.
—	—	5	20	1	—	6	—	—
56 brake-vans, 60 horseboxes, 4 cattle boxes, 4 P.O. vans.	76 brake-vans, horse boxes, &c.	—	—	—	—	12 carriages, 10 horse boxes. 4 cattle boxes, 9 brake-vans.	—	*See* Appendix.
1 horse box	—		2 carriage trucks.	—	—	—	—	—
35	—	—	—	—	—	—	—	—
—	—	10 and 9 tenders.	45 exclusive of 175 goods waggons.	—	—	—	—	—
16 vans 7 horse boxes.	49 waggons and 7 horse boxes.	15	45	4	—	5 carriages 4 vans, 5 horse boxes.	7 waggons and 7 horse boxes.	*See* Appendix.
—	—	4	17 carriages and 1 guard's van.	—	—	—	—	—
—	—	4 tender, 1 tank.	18 carriages and 3 vans.	—	—	—	—	—
—	—	—	2	—	—	—	—	—
73	—	—	—	—	—	3 carriages, 1 timber truck.	—	—
708	369	60	646	23	—	200	33	
13,384	3,882	172	1,406	496	152	3,202	520	

EXTRACT from the FOREGOING RETURN showing the NUMBER of ENGINES, PASSENGER and other VEHICLES used for PASSENGER TRAINS which were fitted with TWO or MORE descriptions of CONTINUOUS BRAKES to provide for running Through Trains, and for interchange of Traffic.

NAME OF RAILWAY COMPANY.	Name of Brakes fitted to the Stock enumerated in Columns 4 to 7.		AMOUNT OF STOCK FITTED WITH BRAKES IN DUPLICATE.			
			Engines fitted complete.	Engines fitted with Apparatus for working the Brake.	Vehicles fitted complete.	Vehicles fitted with Pipes and Connections only.
(1.)	(2.)	(3.)	(4.)	(5.)	(6.)	(7.)
EASTERN AND MIDLANDS -	Westinghouse automatic	{Simple vacuum - / Automatic vacuum -}	—	4	1	31
	,,	Clarke's chain - -	—	—	24	—
GREAT EASTERN - -	Westinghouse automatic	Vacuum - -	—	37	5	692
GREAT NORTHERN - -	Vacuum automatic -	Westinghouse - -	—	—	290	71
HULL, BARNSLEY, AND WEST RIDING JUNCTION.	Westinghouse automatic	Automatic vacuum -	—	—	—	25
LANCASHIRE AND YORKSHIRE	Vacuum automatic -	Westinghouse - -	—	—	99	54
LONDON AND NORTH-WESTERN.	Automatic vacuum -	Westinghouse - -	—	—	293	—
LONDON, CHATHAM, AND DOVER.	Westinghouse - -	Automatic vacuum -	—	8	12	26
MIDLAND - - -	Westinghouse -	Automatic vacuum	—	24	—	—
NORTH-EASTERN - -	Westinghouse automatic	Automatic vacuum -	6	24	103	602
	Westinghouse (pipes only).	Automatic vacuum -	—	—	—	1,131
SOMERSET AND DORSET -	Automatic vacuum -	Westinghouse - -	—	—	—	5
SOUTH-EASTERN - -	Automatic vacuum -	Smith's vacuum -	—	—	—	989
	Automatic vacuum (pipes and connections only).	Smith's vacuum -	—	—	85	250
CALEDONIAN - - -	Westinghouse automatic	Vacuum - - -	—	9	545	15
GLASGOW AND SOUTH-WESTERN.	Westinghouse automatic	Automatic vacuum -	—	94	37	—
HIGHLAND - -	Westinghouse -	Automatic vacuum (pipes only). -	—	1	34	117
		TOTAL - -	6	201	1,528	4,647

No. 2.

RETURN for Six Months ending on the 31st day of December 1892, of all CASES in which CONTINUOUS BRAKES have failed to act when required to be brought into Action, or have caused delay in the working of trains on Railways.

No. 2.

RETURN for Six Months ending on the 31st day of December 1892, of all CASES in which CONTINUOUS BRAKES have failed to act when required to be brought into Action, or have caused delay in the working of trains on Railways.

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay in any of the instances asked for in Column 4.	3. Date of Failure.	4. Instances under the three following heads separately, of :— 1. Failure or partial failure to act when required in case of an accident to a train, or a collision between trains being imminent. 2. Failure or partial failure to act under ordinary circumstances to stop a train when required. 3. Delay in the working of trains in consequence of defects in, or improper action of, the Brakes, distinguishing whether they arose from neglect or inexperience of servants, or failure of machinery or material.	5. Number of Miles run by Trains fitted with each description of Continuous Brake.
ENGLAND AND WALES.				
Barry - -	—	No failures reported.	—	Automatic Vacuum Brake. 33,496 miles.
Brecon and Merthyr -	—	No failures reported.	—	Fay's Hand Brake. 4,740 miles.
	The Vacuum Automatic. (8 engines fitted. *See* Return No.1.)		1. and 2. Nil.	Vacuum Automatic Brake. 86,854 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Sept. 19	10 minutes delay at Machen station. Coach No. 8. Vacuum automatic piston rolling ring failed.	
Cambrian - -	—	No failures reported.	—	Automatic Vacuum Brake. 232,015 miles.
Cheshire Lines Committee.	The Vacuum Automatic. (Engines supplied by Manchester, Sheffield, and Lincolnshire and Midland Railway Companies. *See* Return No.1.)		1. and 2. Nil.	Automatic Vacuum Brake. 979,475 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Sept. 9	3.45 a.m. Godley to Liverpool, 2 minutes delay at Warrington. Remedying defect in train pipe of Great Eastern horse box No. 124.	
		,, 15	4 minutes delay at Brooklands and Altrincham. Difficulty in releasing brake train pipe between engine and tender No. 316. Collapsed from ordinary wear and tear.	
Colne Valley and Halstead.	—	No failures reported.	—	Westinghouse Automatic Brake. 29,968 miles.
Corris - - -	—	No failures reported.	—	Vacuum Automatic. 2,603 miles.
East and West Junction.	—	No failures reported.	—	Westinghouse Automatic Brake. 47,588¾ miles. Vacuum Brake, 3024.
Eastern and Midlands	—	No failures reported.	—	Westinghouse Automatic Brake. 165,883½ miles.

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Furness - -	The Automatic Vacuum. (45 engines fitted. *See* Return No. 1.)	Sept. 10	1. and 2. Nil. 3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.* 35 minutes delay to No. 94 down train at Lindal, owing to the india-rubber ring in vacuum cylinder of No. 130 third-class carriage being jammed.	Automatic Vacuum. 379,114 miles.
Great Eastern - -	Westinghouse Brake. (514 engines fitted. *See* Return No. 1.)		1 and 2. Nil. 3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	6,232,156 miles.
		July 2	Flexible pipe burst on brake-van No. 446, at Witham.	
		„ 7	Collar broke off pipe from driver's valve to three-way piece on engine No. 424, between Chelmsford and Ingatestone.	
		„ 7	Union nut on main reservoir slacked back on engine No. 784, near Stowmarket.	
		„ 12	Collar broke off pipe from pump to reservoir on engine No. 677, at Fenchurch Street.	
		„ 25	Flexible pipe burst on T.C.C. No. 757, at Saxmundham.	
		Aug. 3	Flexible pipe burst on engine No. 164, near Belton.	
		„ 13	Union nut slacked back on pipe from pump to main reservoir on engine No. 0384, near Boreham.	
		„ 16	Flexible pipe burst on brake-van No. 229, at Victoria Park.	
		„ 16	Union nut slacked back on main pipe on engine No. 783, at Beccles.	
		„ 17	Flexible pipe burst on brake-van No. 222, at Forest Gate.	
		„ 24	Flexible pipe burst on T.C.C. No. 475, at Ely.	
		„ 30	Flexible pipe burst on composite carriage No. 104, at Saxmundham.	
		Sept. 1	Flexible pipe burst on composite carriage No. 206, at Roudham Junction.	
		„ 7	Union nut slacked back on main pipe on engine No. 722, at Chesterford.	
		„ 7	Flexible pipe burst on F.C.C. No. 268, at Western Junction, Stratford.	
		„ 14	Flexible pipe burst on T.C.C. No. 449, at Copper Mills Junction.	
		„ 14	Union nut slacked back on pipe from pump to main reservoir on engine No. 424, between Romford and Romford Factory.	
		„ 14	Flexible pipe burst on brake-van No. 59, near Brantham.	
		„ 17	Flexible pipe burst on T.C.C. No. 994, at Bethnal Green.	
		„ 22	Collar broke off pipe from main reservoir to driver's valve on engine No. 778, at Blankney.	
		„ 22	Collar broke off pipe from main reservoir to driver's valve on engine No. 778, between Scopwick and Martin Road.	
		„ 25	Collar broke off pipe from pump to main reservoir on engine No. 757, at Sawbridgeworth.	
		„ 27	Collar broke off pipe from pump to main reservoir on engine No. 57, at Abbey Mills Junction.	
		Oct. 8	Packing washer defective in flexible pipe on engine No. 579, at Woolwich.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Great Eastern—*cont.* -	Westinghouse Brake—*cont.*	Oct. 13	Flexible pipe burst on fruit van No. 15, near Ardleigh.	
		,, 18	Flexible pipe burst on F.C.C. No. 70, near Hatfield Peverel.	
		,, 21	Collar broke off pipe from pump to main reservoir on engine No. 353, at Clapton.	
		,, 26	Flexible pipe burst on horse-box No. 191, at Tottenham.	
		,, 30	Collar broke off pipe from pump to main reservoir on engine No. 727, near Halesworth.	
		Nov. 3	Flexible pipe burst on carriage truck No. 27, at East Suffolk Junction.	
		,, 7	Flexible pipe burst on brake-van No. 348, at Ely.	
		,, 9	Flexible pipe burst on T.C.C. No. 194, near Waterbeach.	
		,, 14	Collar broke off pipe from pump to main reservoir on engine No. 359, at Clapton.	
		,, 25	Collar broke off pipe from pump to main reservoir on engine No. 756, near Harlow.	
		Dec. 16	Flexible pipe burst on brake-van No. 77, at Stow Park.	
		,, 22	Flexible pipe burst on engine No. 244, at Woolwich.	
	Vacuum -	Oct. 12	Brakes applied on several vehicles, caused by engine No. 713 priming badly, and being unable to counteract vacuum in brake cylinders.	16,224 miles.
			———	
			Brake Failures on "Foreign Stock" working over the G.E.R. Co.'s System.	
	Westinghouse Brake.	Aug. 22	Flexible pipe burst on Great Northern Railway horse-box No. 1224, at Ely.	
		Sept. 9	Flexible pipe burst on London and North-Western Railway horse-box No. 183, between Fulbourne and Cambridge.	
		,, 28	Flexible pipe burst on Midland Railway horse-box No. 107, at Warrenhill Junction, Newmarket.	
		Oct. 11	Flexible pipe burst on Great Northern Railway composite carriage No. 2322, between Ely and Manea.	
		,, 14	Flexible pipe burst on Midland Railway horse-box No. 118, at Fulbourne.	
	Vacuum -	Dec. 20	Brake cylinder piston-rod jammed itself in slot working in conjunction with Westinghouse brake on M.S.J.S. brake van No. 6, at Forest Gate.	
Great Northern -	The Vacuum Automatic. (694 engines fitted. *See* Return No.1.)		1 and 2. Nil.	5,098,778 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 27	Five minutes delay at Firsby to down train No. 19, owing to piston rod of compo. No. 84 being bent.	
		,, 30	Eight minutes delay at Woodstone to 2nd part of up train No. 84, owing to piston rod of third No. 583 being bent.	
		Aug. 5	Four minutes delay at Grantham to down train No. 69, owing to passenger's communication handle of M. S. & L. compo. No. 173 being pulled down.	
		,, 24	Ten minutes delay at York to special express, owing to connecting pipe of tender No. 280 being broken.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Great Northern—*cont.*	The Vacuum Automatic—*cont.*	Sept. 14	Fifteen minutes delay at Biggleswade to down train No. 665, owing to piston rod of compo. No. 263 being bent.	
		„ 16	Thirty-eight minutes delay at York to up train No. 454, owing to waste being allowed to get into connecting pipes of third No 928 when coupling up.	
		„ 23	Four minutes delay at Hawkshead to up train No. 628, owing to brake rod of engine No. 668 breaking.	
		„ 23	Six minutes delay at Hemsworth to up train No. 628, owing to elastic pipe connecting cylinder to iron pipe of engine No. 98 being worn.	
		„ 23	Twenty-three minutes delay between Peterboro' and St. Neots to up train No. 264, owing to india-rubber gland of brake cylinder being defective and piston gland washer of compos. Nos. 1765 and 366, and L.B. vans Nos. 1010 and 1013 being out of order.	
		„ 26	Five minutes delay at Boston to up train No. 11, owing to connecting pipe of fish truck No. 27,467 being defective.	
		„ 28	Eleven minutes delay at Biggleswade to down train No. 286, owing to neck ring of piston of compo. No. 237 being worn.	
		Oct. 1	Five minutes delay at Castleford to train No. 266/1, owing to connecting pipes of engine No. 332 being tight.	
		„ 15	Seventeen minutes delay at Peterboro' to up train No. 415, owing to piston gland of compo. No. 748 leaking.	
		„ 22	Seventeen minutes delay between Peterboro' to Grantham to down train No. 116, owing to jointing ring of cylinder of third No. 1865 being defective.	
		Nov. 1	Eight minutes delay at Westgate to train No. 157/1, owing to straight pipe of carriage brake No. 197 being defective.	
		„ 3	Three minutes delay between Grantham and Retford to down train No. 69, owing to pipes of carriage truck No. 1086 stopping up.	
		„ 9	Five minutes delay at Grantham to down train No. 237, owing to sack of compo. No. 2323 being defective.	
		„ 13	Ten minutes delay at Retford to down train No. 99, owing to piston being out of cylinder of third No. 1895.	
		„ 23	Twelve minutes delay at King's Cross to down train No. 431, owing to main pipe of compo. No. 2326 being obstructed.	
		Dec. 5	Five minutes delay at Meldreth to C.B. down train No. 10, owing to drip valve of engine No. 219 leaking.	
		„ 22	Ten minutes delay at Peterboro' to up train No. 628, owing to india-rubber piston washer of carriage brake No. 2426 being defective.	
		„ 27	Eight minutes delay at Peterboro' to down train No. 16, owing to ice being between connecting pipes of carriages.	
		„ 28	Three minutes delay at Newark to up train No. 263, owing to ice being between connecting pipes of horse-box No. 2262.	
		„ 28	Five minutes delay between Grantham and Honington to down train No. 10, owing to connecting pipe of carriage brake No. 1529 being split. Wear and tear.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Great Western - -	Automatic Vacuum Brake (Sanders and Bolitho's). (1,957 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	9,762,933 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 1	Three minutes delay running between Taunton and Tiverton Junction, owing to pipe of rear vehicle not being properly placed on stop plug of compo. No. 840.	
		,, 5	Five minutes delay running between Shiplake and Twyford, owing to bridge pipe of engine No. 662 breaking.	
		,, 7	Eight minutes delay at Whitland, owing to top cylinder cover of milk-van No. 717 breaking.	
		,, 8	Three minutes delay running between Salop and Craven Arms, owing to piston gland of Cambrian Company's third-class carriage No. 68 being defective.	
		,, 9	Eight minutes delay running between Minety and Kemble, owing to air pipe leading to pump of engine No. 3225 breaking.	
		,, 11	Ten minutes delay running between Box and Swindon, owing to joint of air pump of engine No. 76 failing.	
		,, 16	Four minutes delay running between Port Talbot and Bridgend, owing to release valve of passenger brake-van No. 885 sticking up.	
		,, 19	Three minutes delay at Gloucester. Brake leaked on. Temporary defect, cause of which could not be ascertained	
		,, 22	Three minutes delay at Port Talbot, owing to cylinder jamming on piston rod of passenger brake-van No. 1046, owing to gland being too tight.	
		,, 23	Seven minutes delay at Birmingham, owing to piston binding on cylinder of third-class carriage No. 883.	
		,, 23	Eight minutes delay running between Westbourne Park and West Drayton. Brake leaked on. Temporary leakage, probably one of the release valves sticking up.	
		,, 25	Five minutes delay at Cardiff, owing to flexible hose-pipe of engine No. 812 being defective.	
		,, 23	Nine minutes delay at Oxford, owing to gland of pump of engine No. 710 being defective.	
		,, 29	Six minutes delay at Newport, owing to cylinder gland of fish-truck No. 960 breaking.	
		Aug. 1	Five minutes delay at West London Junction, owing to clip of stop plug of carriage truck No. 365 working loose, allowing plug to drop.	
		,, 1	Two minutes delay at Risca, owing to continuous pipe of third-class carriage No. 1012 being stopped up with piece of cotton waste.	
		,, 2	Four minutes delay at Paddington, owing to engines No. 1123 and 3006. Brake went on and pulled train up. Temporary defect, probably ejector check-valve of one of the engines stuck up.	
		,, 3	Three minutes delay running between Gloster and Neath, owing to release valve of compo. No. 1056 sticking up.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3 Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brake
Great Western—*cont.*	Automatic Vacuum Brake (Sanders and Bolitho's) —*cont.*	Aug. 9	Two minutes delay at Churchill, owing to clip of stop plug of carriage-truck No. 27,461 working loose, allowing plug to drop.	
		,, 17	Six minutes delay at Newport, owing to cylinder cover of fish-van No. 957 breaking.	
		,, 20	Three minutes delay at Penryn. Brake leaked on horse-box No. 340. Cause not satisfactorily ascertained. Probably the release valve sticking up.	
		,, 23	Seven minutes delay at Reading, owing to temporary obstruction under valves of pump of engine No. 583.	
		,, 24	Five minutes delay at Weymouth, owing to top cylinder cover of carriage truck No. 375 breaking.	
		,, 24	Four minutes delay at Yelverton, owing to release valve of third-class carriage No. 1470 sticking up.	
		,, 24	Five minutes delay at Hereford, owing to copper pipe leading to bridge pipe of air pump of engine No. 481 breaking.	
		,, 25	Five minutes delay at St. Erth, owing to release valve of meat-van No. 47,971 sticking up.	
		,, 28	Fourteen minutes delay at Torquay. Brake leaked on L. & N.W. compo. No. 538. Cause could not be ascertained. Delay putting off coach.	
		,, 29	Ten minutes delay running between Reading and Trowbridge, owing to flexible hose-pipe of engine No. 492 between engine and tender splitting.	
		,, 31	Three minutes delay at Pontypool Road, owing to brake setter of brake third No. 2180 sticking up.	
		Sept. 1	Eight minutes delay at Maidenhead Bridge Junction, owing to air pipe of engine No. 2314 splitting.	
		,, 2	Five minutes delay at Bridgend, owing to ejector of engine No. 2389 being out of order.	
		,, 4	Four minutes delay at Oxford, owing to gland studs of third-class carriage No. 177 being loose.	
		,, 9	Four minutes delay at Shrewsbury. Cylinder would not release itself, owing to piston rod of compo. No. 1339 being rough and dirty.	
		,, 12	Seven minutes delay running between Gloucester and Newport. Brake leaked on. Temporary defect, cause of which could not be ascertained.	
		,, 12	Three minutes delay at Hemerdon Bank, owing to ejector check-valve of engine No. 3549 sticking up.	
		,, 16	Three minutes delay running between Chippenham and Bath, owing to bridge pipe of pump of engine No. 3223 breaking.	
		,, 17	Slight delay at several metropolitan stations. Brake leaked on. Temporary irregularity in the working of some experimental brake valves.	
		,, 17	Slight delay at several metropolitan stations, owing to pump valve of engine No. 619 being defective.	
		,, 17	Four minutes delay at Waltham Siding, owing to cylinder of third-class carriage No. 2305 being out of plumb.	
		,, 21	Five minutes delay at Reading, owing to cylinder cover of horse-box No. 647 being broken.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Great Western—*cont.*	Automatic Vacuum Brake (Sanders and Bolitho's) —*cont.*	Sept. 21	Thirteen minutes delay at Taunton, owing to valve of air pump of engine No. 3011 being defective.	
		,, 22	Two minutes delay at Bishopsgate, owing to ejector of engine No. 1410 being out of order.	
		,, 23	Five minutes delay at Probus, owing to ejector check valve of engine No. 2429 sticking up.	
		,, 23	Two minutes delay at Plymouth Ticket platform. Brake leaked on horse-box No. 575. Temporary defect, exact cause of which could not be ascertained.	
		,, 24	Four minutes delay at Reading, owing to flexible hose-pipe of brake third No. 1743 breaking.	
		,, 25	Four minutes delay at Truro, owing to nuts on reducing valve of pump of engine No. 3521 working loose.	
		,, 27	Eight minutes delay at Didcot, owing to branch pipe from pump to main air pipe of engine No. 3026 breaking.	
		,, 27	Seventeen minutes delay running between Bristol and Uphill Junction, owing to gland jamming on piston rod of London and North-Western carriage-truck No. 332.	
		,, 29	Five minutes delay at Evershot, owing to ejector check-valve of engine No. 592 sticking up.	
		,, 29	Slight delay running between Mansion House and Aldgate. Cylinder jammed, owing to shaft bolt of first-class carriage No. 21 breaking, the broken part getting fixed on top of shaft.	
		Oct. 6	Eight minutes delay at Taunton, owing to gland of third-class carriage No. 2158 being defective.	
		,, 7	Four minutes delay at St. Columb Road, owing to cylinder of passenger brake-van No. 37 jamming on piston.	
		,, 8	Seven minutes delay at Portobello Junction, owing to cylinder cover of compo. No. 1039 breaking.	
		,, 10	Three minutes delay at Lydney, owing to union nut of branch pipe of third-class carriage No. 2301 working loose.	
		,, 12	Two minutes delay running between Princes Street box and South Kensington. Brake leaked on. Temporary defect, cause of which could not be ascertained.	
		,, 15	Three minutes delay at Dauntsey, owing to top cylinder cover of milk-van No. 614 breaking.	
		,, 15	Three minutes delay at Bridgwater, owing to release-valve of horse-box No. 340 sticking up.	
		,, 18	Four minutes delay running between Purton and Minety and three minutes delay running between Oakle station and Grangecourt, owing to release valve sticking up on horse-box No. 442, the joints being rusty.	
		,, 24	Three minutes delay at Maidenhead, owing to the release-valve of carriage-truck No. 193 sticking up.	
		,, 27	Five minutes delay at Bodmin Road and five minutes delay at Liskeard, owing to brake setter-valve of compo. No. 1290 sticking up.	
		,, 31	Two minutes delay at Mansion House, owing to flexible hose-pipe of engine No. 969 breaking.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brake.
Great Western—*cont.*	Automatic Vacuum Brake (Sanders and Boliho's)—*cont.*	Nov. 1	Two minutes delay at Bodmin Road, owing to release-valve on horse-box No. 207 sticking up and piston-band of horse-box No. 79 being twisted.	
		" 2	Four minutes delay at Worcester, owing to cylinder of carriage-truck No. 243 jamming on piston.	
		" 5	Two minutes delay running between Blackfriars and Temple. Brake leaked on. Temporary defect, cause of which could not be ascertained.	
		" 9	Six minutes delay running between Dainton and Plymouth, owing to release valve of parcel-van No. 782 sticking up.	
		" 9	Two minutes delay running between Mill Bay and North Road, Plymouth. Cylinder jammed on piston-rod of van No. 853, caused by gland not being fitted properly.	
		" 15	Two minutes delay running between Banbury and Oxford, owing to release valve of horse-box No. 676 sticking up.	
		" 15	Two minutes delay running between Heyford and Oxford, owing to release valve of horse-box No. 676 sticking up.	
		" 18	Four minutes delay running between Westbourne Park and Aldgate, owing to ejector in smoke-box of engine No. 1419 being defective.	
		" 20	Four minutes delay running between Paddington and Royal Oak. Brake leaked on L. & N.W. coach, caused by brake handle not having been altered to "auto." position before train started.	
		" 20	Twelve minutes delay running between Didcot and Oxford, owing to piston gland of horse-box No. 25 being defective.	
		" 22	Seven minutes delay at Nantyderry, owing to release-valve of horse-box No. 203 sticking up.	
		" 21	Three minutes delay at Landore, owing to flexible hose-pipe of carriage-truck No. 266 being defective.	
		" 23	Three minutes delay at Royal Oak. Brake leaked on engine No. 615. Grit got under regulating valve of pump.	
		" 24	Six minutes delay running between Reading and Goring, owing to release valve of milk-van No. 516 sticking up.	
		" 25	Three minutes delay running between Mansion House and Bishop's Road, owing to collar of copper pipe of second-class carriage No. 39 breaking off.	
		Dec. 2	Five minutes delay at Newport. Ejector check-valve of engine No. 1493 would not close, owing to a piece of iron getting under it.	
		" 2	Ten minutes delay at Didcot, owing to release valve of milk-van No. 740 sticking up.	
		" 5	Three minutes delay at Yeovil, owing to flexible hose-pipe of tender of engine No. 876 being broken.	
		" 5	Six minutes delay at Slough, owing to india-rubber washer in coupling of flexible hose-pipe of compo. No. 1030 being defective.	
		" 6	Twenty minutes delay running between Taunton and Bristol, owing to pump gland packing of engine No. 3018 being defective.	

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Great Western—*cont.*	Automatic Vacuum Brake (Sanders and Bolitho's) —*cont.*	Dec. 7	Twelve minutes delay running between Gloucester and Swindon, owing to release valve of milk-van No. 514 sticking up.	
		,, 6	Two minutes delay at Teignmouth and two minutes delay at Dawlish, owing to release valve af fish-truck No. 42,556 sticking up.	
		,, 7	Five minutes delay at Hereford, owing to union nut of branch-pipe of compo. No. 590 working loose.	
		,, 10	Four minutes delay near Swindon, owing to engine No. 3024. Pipe leading to bridge pipe of air pump breaking.	
		,, 13	Five minutes delay at Knowle, owing to release valve of horse-box No. 683 sticking up.	
		,, 14	Twelve minutes delay at Abergavenny Junction. Brake leaked on two L. & N.W. coaches, which were attached to train at Abergavenny Junction. Temporary defect, cause of which could not be ascertained.	
		,, 15	Two minutes delay at Bruton, owing to branch pipe leading to bridge pipe of air pump of engine No. 482 breaking.	
		,, 15	Eight minutes delay at Trowbridge, owing to continuous pipe of L. & S.W. carriage truck No. 74 splitting.	
		,, 16	Two minutes delay at Bristol, owing to india rubber gland of passenger brake-van No. 89 being defective.	
		,, 18	Ten minutes delay at Exeter, owing to top cylinder cover of meat-van No. 47,990 breaking.	
		,, 19	Three minutes delay at Ashbury Crossing and Shrivenham, owing to release valve of horse-box No. 384 sticking up.	
		,, 20	Five minutes delay running between Totnes and Rattery, owing to release valve of fish-truck No. 964 sticking up.	
		,, 23	Three minutes delay at Exeter, owing to union nut of branch pipe of compo. No. 1367 working off.	
		,, 23	Ten minutes delay running between Upwey and Yeovil. Brake could not be released. Temporary defect, which righted itself.	
		,, 26	Six minutes delay running between Edgware Road and Baker Street. Brake leaked on. Temporary defect; probably one of the release valves stuck up.	
		,, 27	Five minutes delay running between West Drayton and Langley. Brake went on and pulled train up. Unable to ascertain cause.	
		,, 27	Two minutes delay at Bigswear and two minutes delay at Tintern, owing to bridge pipe of pump of engine No. 568 breaking.	
		,, 28	Five minutes delay at Swindon, owing to flexible hose-pipe between tender of engine No. 3013 and train blocked with ice.	
		,, 26	Seven minutes delay at Gloucester, owing to flexible hose-pipe of engine No. 3214 between engine and tender being defective.	
		,, 29	Seven minutes delay running between Condover and Church Stretton. Brake leaked on. Release valve stuck up. No. of vehicle not taken.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Great Western—*cont.*	Automatic Vacuum Brake (Sanders and Bolitho's)—*cont.*	Dec. 31	Eight minutes delay running between Worcester and Oxford, owing to cylinder of third-class carriage No. 753 jamming on piston rod.	
		„ 31	Three minutes delay running between Oxford and Banbury, owing to bottom cylinder cover of compo. No. 1366 breaking.	
		No failures reported.	——	Fay's Hand Brake. 3,153 miles.
Hull, Barnsley, and West Riding Junction Railway and Dock Company.	Westinghouse Automatic Brake. (12 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	105,824 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Aug. 5	Westinghouse hose-pipe of Midland Railway horse-box No. 16 burst at Cudworth station before starting with No. 33 down passenger. No delay.	
		„ 30	Westinghouse hose-pipe came off between engine and tender No. 42 when working No. 55 down passenger train. Two minutes delay. Train worked by hand brake.	
		Sept. 16	Westinghouse donkey of No. 35 engine failed at Knottingley through pump cover cap nut blowing off. Train worked by hand-brake. No. 45 down passenger.	
	Automatic Vacuum Brake. (34 engines fitted. *See* Return No. 1.)	Nov. 30	Vacuum brake failed on No. 33 engine, No. 47 down passenger, owing to dirt being drawn into ejector at Cudworth. Train worked by hand brake.	76,108 miles.
Isle of Wight - -	- - -	No failures reported.	——	Westinghouse Brake. 44,650 miles.
Isle of Wight Central -	—	No failures reported.	——	Westinghouse Brake. 34,104 miles.
Lancashire and Yorkshire.	Automatic Vacuum Brake (856 engines fitted. *See* Return No. 1)		1 and 2. Nil.	5,150,022 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 2	The 6.30 p.m. Liverpool to York was delayed at Milford Junction owing to the piston of No. 1680 third-class carriage sticking. Cause not ascertained.	
		„ 5	The 5.40 p.m. Manchester to Blackpool was delayed 10 minutes at Bolton owing to the vacuum pipe of engine No. 1003 breaking under the ejector.	
		„ 10	The 2.5 p.m. Manchester to Hellifield was delayed 10 minutes at Chatburn by the vacuum piston sticking on engine No. 823, owing to the rolling ring being twisted.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c., under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Lancashire and Yorkshire—*cont.*	Automatic Vacuum Brake —*cont.*	July 25	The 6.52 p.m. Poulton to Blackpool (T.R.) was delayed at Poulton by the vacuum piston sticking on engine No. 44 owing to the rolling ring being twisted.	
		Aug. 9	The 12.15 p.m. Manchester to Southport was delayed 3 minutes in running owing to the vacuum pipe on engine No. 840 breaking under the ejector.	
		,, 9	The 7.15 p.m. Liverpool to Rochdale was delayed at Pimbo Lane and Wigan owing to the piston of van No. 219 sticking. Cause not ascertained.	
		,, 18	The 3.55 p.m. Leeds to Manchester was delayed 28 minutes at Todmorden by the vacuum chamber pipe breaking on engine No. 900.	
		,, 24	The 11.7 a.m. Bradford to Liverpool was delayed 5 minutes in running by the clappit valve on engine No. 889 being defective.	
		,, 21	The 6.20 p.m Low Moor to Leeds was delayed 5 minutes at Holbeck owing to the tender coupling hose-pipe on engine No. 774 being defective.	
		Sept. 3	The 6.25 a.m. Swinton to Manchester was delayed 3 minutes at Brindle Heath Junction by the tender vacuum coupling hose pipe on engine No. 797 being defective.	
		,, 15	The 6.10 p.m. Manchester to Holcombe Brook was delayed 5 minutes in running by the clappit valve on engine No. 1014 being defective.	
		,, 24	The 9.30 p.m. Manchester to Bolton was delayed 10 minutes in running by the small ejector of engine No. 382 being defective.	
		Oct. 5	The 9.5 a.m. Normanton to Manchester was delayed 3 minutes in running owing to the main vacuum pipe on engine No. 656 being defective.	
		,, 14	The 5.28 p.m. Blackburn to Hellifield was delayed 8 minutes at Daisy Field by the vacuum coupling hose pipe on engine No. 465 being defective.	
		,, 14	The 2.35 p.m. Liverpool to Rochdale was delayed 7 minutes in running owing to the train vacuum pipe on engine No. 653 being defective.	
		,, 25	The 11.10 p.m. Bradford to Dewsbury was delayed at Ravensthorpe owing to the piston of third-class carriage sticking. Cause not ascertained.	
		,, 29	The 10.50 a.m. Blackburn to Burnley was detained at Great Harwood owing to the piston on third-class carriage sticking. Cause not ascertained.	
		,, 31	The 8.35 a.m. Manchester to Royton was delayed at Miles Platting owing to the piston of third-class carriage No. 1305 sticking. Cause not ascertained.	
		Nov. 15	The 5.43 p.m. Wigan to Manchester was delayed 6 minutes at Hindley and 6 minutes in running by the small ejector of engine No. 260 being defective.	
		,, 25	The 12.50 p.m. Preston to Liverpool was delayed 5 minutes at Midge Hall by the tender vacuum piston rod of engine No. 47 being defective.	
		Dec. 2	The 2.25 p.m. Accrington to Preston was delayed 10 minutes at Richton by the tender vacuum piston sticking on engine No. 51 owing to the rolling ring being twisted.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Lancashire and Yorkshire—*cont.*	Automatic Vacuum Brake —*cont.*	Dec. 2	The 5.20 p.m. Manchester to Southport was delayed 10 minutes in running beiween Daisy Hill and Wigan owing to the combination ejector of engine No. 6 being defective.	
		,, 5	The 9.0 a.m. Rochdale to Bradford was delayed 7 minutes at Littleborough by the vacuum piston sticking on engine No. 893 owing to frost.	
		,, 5	The 10.42 a.m. Rochdale to Liverpool was delayed 4 minutes at Sandhills by the vacuum piston sticking on engine No. 868 owing to frost.	
		,, 5	The 8.5 a.m. Rochdale to Liverpool was delayed 7 minutes at Wigan by the vacuum piston sticking on engine No. 898 owing to frost.	
		,, 5	The 1.18 p.m. Bradford to Holmfirth was delayed 13 minutes at Lockwood by the vacuum piston sticking on engine No. 640 owing to the rolling ring being twisted.	
		,, 7	The 10.50 a.m. Bacup to Manchester was delayed at Radcliffe owing to the piston on composite carriage No. 301 sticking. Cause not ascertained.	
		,, 9	The 7.20 p.m. Hellifield to Bolton was delayed 10 minutes at Whalley owing to a drip-valve working loose on engine No. 638.	
		,, 19	The 12.45 p.m. York to Manchester was delayed 10 minutes at Sowerby Bridge by the large ejector of engine No. 994 being defective.	
		,, 24	The 2.40 p.m. Southport to Manchester was delayed 6 minutes in running by the vacuum piston sticking on engine No. 895 owing to frost.	
		,, 25	The 8.5 p.m. Hallifield to Manchester was delayed 20 minutes at Whalley by the vacuum piston sticking on engine No. 1069 owing to frost.	
		,, 26	The 9.30 p.m. Liverpool to Southport was delayed 8 minutes at Bootle by the vacuum piston sticking on engine No. 876 owing to frost.	
		,, 26	The 7.40 a.m. Accrington to Blackpool was delayed 14 minutes at South Shore by the vacuum piston sticking on engine No. 650 owing to the rolling ring being twisted.	
		,, 26	The 1.40 p.m. Wakefield to Barnsley was delayed at Crigglestone owing to the piston of third-class carriage No. 1876 sticking. Cause not ascertained.	
		,, 27	The 1.20 p.m. Liverpool to Rochdale was delayed 10 minutes at Bolton by the vacuum piston sticking on engine No. 895 owing to frost.	
		,, 28	The 5.10 p.m. Manchester to York was delayed 40 minutes in running by the vacuum piston sticking on engine No. 994 owing to frost.	
		,, 28	The 6.57 a.m. Bradford to Meltham was delayed 6 minutes at Cleckheaton by engine No. 20 not being able to create vacuum in the train owing to ice in the coupling pipe.	
		,, 29	The 3.55 a.m. Leeds to Manchester was delayed 10 minutes in running by the vacuum piston sticking on engine No. 900 owing to frost.	

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Lancashire and Yorkshire—*cont.*	Automatic Vacuum Brake —*cont.*	Dec. 29	The 2.20 p.m. Bradford to Dewsbury was delayed 2 minutes at Cleckheaton by engine No. 20 not being able to create vacuum in the train owing to ice in the coupling pipe.	
		,, 30	The 3.52 p.m. Wigan to Manchester was delayed 20 minutes at Windsor Bridge Junction by the tender vacuum piston sticking on engine No. 898 owing to frost.	
Liskeard and Caradon	—	No failures reported.	—	Walter Parker Smith's Automatic Brake. 4,930 miles.
London and North-Western.	Automatic Vacuum Brake. (1,378 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	11,117,199 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 4	The 12.40 p.m. train from Manchester to Wigan lost time in running, owing to a difficulty in maintaining the necessary vacuum. Due to a leakage at joint of pipe on North-Eastern railway van No. 61,947. Failure of material.	
		,, 8	The 6.0 p.m. train from Manchester to Leeds was delayed at Batley, through the engine being unable to release the brakes. Due to a defective miniature sack on North-Eastern railway van No. 78. Failure of material.	
		,, 12	The 8.10 a.m. train from Crewe to Manchester was delayed at Alderley Edge, Wilmslow, and Handforth stations, owing to a difficulty in releasing the brakes. Due to a piece of packing having got into the cone of the large ejector on the engine.	
		,, 25	The 11.41 p.m. train from Carlisle to London was stopped out of course at Oxenholme, consequent on the engine being unable to maintain the vacuum. Due to the vacuum-pump on the engine having broken. Failure of material.	
		,, 26	The 5.45 p.m. train from Shrewsbury to Crewe was delayed at Wem, consequent on the engine being unable to create the vacuum. Due to the vacuum-valve on the engine sticking. Failure of machinery.	
		Aug. 7	The 8.0 p.m. train from London to Carlisle was stopped out of course at Whitmore by signals. The engine afterwards had a difficulty in releasing the brakes owing to the packing in the large ejector nut having blown out. Failure of material.	
		,, 26	The 10.22 p.m. train from Crewe to Holyhead was delayed at Chester, owing to a difficulty being experienced in creating the vacuum. Due to the miniature sack on saloon carriage No. 19 having failed. Failure of material.	
		Sept. 2	The 10.0 a.m. train from London to Carlisle was delayed at Rugby. Engine unable to release brakes, owing to the miniature sack on saloon carriage No. 27 having failed. Failure of material.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
London and North-Western—*cont.*	Automatic Vacuum Brake —*cont.*	Sept. 16	The 12.15 a.m. train from Crewe to Normanton was delayed shortly after leaving Crewe, owing to a difficulty in maintaining the necessary vacuum. Caused by a leakage in the train-pipe under Great Western Railway fish truck No. 420. Failure of material.	
		Oct. 5	The 5.38 p.m. train from Carlisle to Preston was delayed at Carnforth. Engine unable to create the necessary vacuum, owing to the stuffing-box on Caledonian Railway composite carriage No. 201 having got pulled off the nozzle of the brake cylinder, and also to a leakage at the miniature sack on Caledonian Railway meat van No. 1568. Failure of material.	
		,, 6	The 11.30 a.m. train from Peterborough to Rugby lost time in running from Nassington to Kingscliffe. Engine unable to maintain the necessary vacuum, owing to some packing having blown into the vacuum brake apparatus.	
		,, 14	The 4.15 p.m. train from Manchester to Crewe lost time in running to Stockport. Engine unable to maintain vacuum, owing to defective brake cylinder under Great Western Railway carriage No. 226. Failure of material.	
		,, 15	The 8.55 p.m. train from Kenyon to Bolton was delayed at Tyldesley. Engine unable to maintain the vacuum, owing to the hose-pipe on the tender having burst. Failure of material.	
		,, 24	The 12.1 noon train from Carlisle to Manchester lost time in running from Milnethorpe to Carnforth, owing to difficulty in maintaining the vacuum. Due to the stuffing-box under West Coast Joint Stock brake-van No. 100 having got pulled from the nipple of the brake cylinder. Failure of material.	
		Nov. 1	The 3.15 p.m. train from Holyhead to Crewe lost time in running from Aber, owing to the brake blocks rubbing on the wheels of the vehicles. Due to the pump on the engine having created too much vacuum, the driver being unaware of this owing to the gauge being out of order. Failure of material.	
		,, 1	The 11.20 a.m. train from Preston to Liverpool was delayed at St. Helen's, and lost time in running thence to Huyton, owing to difficulty in maintaining the necessary vacuum. Due to the stuffing-box under brake-van No. 594 having got pulled from the nipple of the brake cylinder. Failure of material.	
		,, 5	The 8.10 a.m. train from Crewe to Manchester lost time in running from Chelford to Stockport, owing to difficulty in maintaining the necessary vacuum. Due to a small piece of packing having got down the brass spindle of the large ejector of the engine. Failure of material.	
		,, 5	The 8.40 a.m. train from Carlisle to London, was delayed at Carnforth and also near Preston, owing to difficulty in maintaining the necessary vacuum. Caused by the miniature sack on brake-van No. 424 having given way. Failure of material.	

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London and North-Western—*cont.*	Automatic Vacuum Brake —*cont.*	Nov. 14	The 11.5 a.m. train from Crewe to Carlisle was delayed at Warrington. Engine unable to create the necessary vacuum, owing to the drip-valve not having been properly screwed up. Neglect of staff.	
		„ 19	The 1.40 p.m. train from Carlisle to Crewe lost time in running between Tebay and Preston. Engine unable to maintain the necessary vacuum, owing to the tongue of clip on stuffing-box of brake carriage No. 538 being defective. Failure of material.	
		„ 22	The 12.23 p.m. train from Carlisle to London lost time in running between Rugby and Willesden, and was delayed at the latter station. Difficulty in maintaining the necessary vacuum, owing to a small valve working out of the vacuum apparatus on the engine. Failure of machinery.	
		Dec. 6	The 1.50 p.m. train from Liverpool to Garston lost time on the journey, through the engine being unable to maintain the necessary vacuum. Due to some obstruction having got into the cone of the ejector of the engine. Failure of material.	
		„ 8	The 2.0 p.m. train from Liverpool to London was delayed at Willesden. Engine unable to release brakes, owing to a defect in the packing-ring of the stuffing-box on parcel van No. 104. Failure of material.	
		„ 10	The 9.15 a.m. train from London to Rugby lost time in running from Bletchley to Northampton, owing to a difficulty in maintaining the necessary vacuum. Due to one of the joints of the small connexions under brake-van No. 1,810 having given way. Failure of material.	
		„ 17	The 7.10 p.m. train from Manchester to Liverpool lost time in running from Manchester to Patricroft. Engine unable to maintain the necessary vacuum, owing to the drip-valve being out of order, and also to one of the clack-washers having perished. Failure of material.	
		„ 24	The 3.45 p.m. train from Crewe to Manchester was delayed at Sandbach and at Holmes Chapel. Engine unable to release brakes, owing to the drip-cock under the ejector having partially broken off, and also to a small piece of scale having got inside the ball of the valve. Failure of material.	
		„ 26 & 27	The 7.20 p.m. train from Stafford to Shrewsbury was delayed at Wellington on the 26th, and at Gnosall on the 27th. Engine unable to maintain the necessary vacuum, owing to the torpedo ejector having got blocked up with a piece of packing from the ejector steam-pipe nut.	
		„ 28	The 4.15 p.m. train from Bletchley to London was delayed at Watford, through a difficulty in creating the necessary vacuum. Due to some packing having got into the ejector of engine. Neglect of staff.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Train fitted with Continuous Brakes.
London and North-Western—*cont.*		No failures reported.	—	Clarke and Webb's Chain Brake. 1,085 miles.
		No failures reported.	—	Fay's Continuous Brake. 698 miles.
London and South-Western.	Vacuum Automatic Brake. (566 engines fitted. *See* Return No. 1.)		1 and 2 Nil.	4,998,866¼ miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 11	Six minutes delay at Woking. Vacuum ejector of engine failed. Drip valve slacked and came out.	
		,, 12	Five minutes delay at Waterloo. Washer missing from flexible connexion of No. 237 fruit-van.	
		,, 22	Five minutes delay between Vauxhall and Waterloo stations. Brake piston of No. 212 milk-van dropped down.	
		,, 23	Five minutes delay at Woking. Brake piston rod dropped out of cylinder of No. 212 milk-van.	
		,, 25	Seven minutes delay between Honiton and Seaton Junction. Hole in flexible pipe between engine and tender.	
		Aug. 3	Seven minutes delay at Okehampton. Brake of No. 289 third-class carriage adjusted too tightly.	
		,, 7	Six minutes delay at Friary. Miniature sack of No. 649 third-class brake hung up.	
		,, 11	Three minutes delay on journey. Brake of No. 15 block train required adjusting.	
		,, 21	Nine minutes delay at Friary. Piston of No. 843 third-class carriage hung up.	
		,, 23	Nine minutes delay between Tavistock and Beer Alston. Rubber ring jammed in cylinder of No. 843 third-class carriage.	
		,, 27	Five minutes delay at Broad Clyst. Hole in miniature sack of No. 401 composite carriage.	
		Sept. 6	Four minutes delay at Surbiton. Branch pipe of No. 380 composite carriage broken.	
		,, 9	Sixteen minutes delay at Twickenham. Brake of No. 167 second-class carriage adjusted too tightly.	
		,, 17	Two minutes delay at Yeovil. Vacuum branch pipe of No. 14 passenger van leaking.	
		,, 26	Two minutes delay at Weymouth. Lugs of vacuum coupling pipe between No. 379 first and No. 233 second-class carriages broken.	
		,, 27	Nine minutes delay on journey. Combined ejector of engine dirty.	
		Oct. 26	Six minutes delay at St. Margaret's. Vacuum piston of cylinder of No. 205 third-class carriage working out.	
		Nov. 7	Four minutes delay at Barnstaple. Leakage in main train pipe of No. 8166 meat van.	
		,, 15	Two minutes delay at Exeter. Elbow joint casting of main train pipe broken of No. 510 third-class brake.	

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London and South-Western——*cont.*	Vacuum Automatic Brake —*cont.*	Nov. 16	Four minutes delay at Staines. Valve of No. 326 third-class brake hung up.	
		„ 22	Two minutes delay between Feltham Junction and Feltham. Branch pipe of No. 217 composite carriage broken.	
		„ 30	Six minutes delay on journey. Flexible pipe of tender broken.	
		Dec. 2	Five minutes delay on journey. Flexible pipe connexion between engine and tender opening.	
		„ 6	Three minutes delay at Richmond. Flexible pipe between Nos. 104 and 424 first-class carriages disconnected.	
		„ 7	Five minutes delay at Southampton. Defective vacuum pipe of No. 220 milk-van.	
		„ 10	Nine minutes delay on journey. Piece of waste found in pipe of carriage.	
		„ 24	Six minutes delay at Eastleigh. Vacuum pipe of No. 216 composite carriage leaking.	
		„ 29	Four minutes delay at Waterloo. Flexible pipes of Nos. 49 second and 107 composite carriages broken, owing to frost.	
London, Brighton, and South Coast.	Westinghouse Continuous Automatic Air Brake. (362 engines fitted. *See* Return No. 1.)		1. Nil.	3,863,694 miles.
			2. *Failure or partial failure to act under ordinary circumstances to stop a train when required.*	
		Sept. 21	10.56 a.m. London to Epsom Downs overshot the platform at New Cross one and a half carriage lengths owing to the brake not acting, the brake blocks not being adjusted as closely to the wheels as they ought to have been.	
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 11	9.30 a.m. Brighton to Horsted Keynes delayed 6 minutes between Brighton and Hayward's Heath. Reversing piston of donkey pump broke.	
		„ 28	2.25 p.m. West Croydon to London Bridge delayed 3 minutes at Norwood Fork Junction. Union collar came off main air copper pipe leading to brake regulator on engine (main pipe end).	
		Aug. 4	5.45 p.m. Brighton to Victoria delayed three minutes at Lover's Walk. Defective washer in hose pipe on No. 384 composite carriage.	
		„ 7	11.50 a.m. Victoria to Newhaven Boat delayed 7 minutes near Star Bridge signals. Pressure gauge pipe collar broke and nut split.	
		„ 10	2.3 p.m. Victoria to Brighton delayed 3 minutes between Horley and Gatwick. Hose-coupling on No. 115 carriage-truck burst.	
		„ 17	11.28 a.m. Battersea Park to London Bridge delayed two minutes at Wandsworth Road. Air delivery pipe union collar adjoining donkey pump came off.	
		„ 19	3.48 p.m. Eastbourne to Brighton delayed 9 minutes between Eastbourne and Polegate. Hose coupling on No. 168 South-Eastern Company's carriage-truck defective.	
		„ 21	9.25 a.m. Victoria to Eastbourne delayed 3 minutes between Berwick and Polegate. Hose coupling on tender burst.	

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London, Brighton, and South Coast—*cont.*	Westinghouse Continuous Automatic Air Brake—*cont.*	Aug. 31	9.55 a.m. Brighton to London delayed 4 minutes between Clayton Tunnel and Hassocks. Union collar came off branch pipe leading from main pipe on No. 310 composite carriage.	
		Sept. 1	8.15 a.m. Brighton to Horsham delayed 3 minutes at Brighton. Packing ring in head of hose coupling on No. 1,042 third-class brake split.	
		„ 4	8.46 a.m. London Bridge to Brighton. Special delayed 7 minutes between Brockley and East Croydon. Grit in exhaust part of triple valve of No. 867 third-class carriage.	
		„ 7	7.50 p.m. Eastbourne to London delayed 2 minutes between Polegate and Berwick. Hose coupling on No. 8,014 poultry-van burst.	
		„ 7	8.20 a.m. Eastbourne to Tunbridge Wells delayed 3 minutes at Rotherfield. Hose coupling on No. 88 carriage truck leaked.	
		„ 11	3.45 p.m. Victoria to London Bridge delayed 3 minutes at Battersea Park. Donkey pump reversing valve chamber cap thread of engine stripped.	
		„ 12	5.35 p.m. Newhaven to Victoria delayed 5 minutes at Balcombe Tunnel. Temporary stoppage of donkey-pump, apparently through water getting in.	
		„ 15	10.35 a.m. Newhaven to London Bridge. Grande Vitesse delayed 1 minute between Folly Hill and Hayward's Heath. Coupling lead packing ring on tender defective.	
		„ 20	5.9 p.m. London Bridge to Brighton delayed 3 minutes at Keymer Junction. Hose coupling on No. 1342 Great Northern Company's horse-box burst.	
		„ 20	4.2 p.m. East Croydon to London Bridge delayed 2 minutes at Sydenham. Hose coupling on tender burst.	
		„ 26	4.14 p.m. London to Horsham delayed 1 minute at London Bridge. Hose coupling on No. 525 third-class carriage burst.	
		„ 27	4.40 p.m. Eastbourne to Victoria delayed 3 minutes at Merstham. Hose coupling on No. 64 carriage truck burst.	
		Oct. 6	11.45 a.m. Brighton to Victoria delayed 3 minutes at Brighton. Hose coupling on No. 122 carriage truck leaked.	
		„ 10	6.0 a.m. Brighton to Pulborough delayed 15 minutes at Brighton. Coupling head packing ring on tender worn.	
		„ 14	11.0 p.m. London Bridge to Victoria delayed 3 minutes at London Bridge and New Cross. Donkey pump discharge valve broken.	
		„ 19	5.0 p.m. Brighton to Victoria delayed 2 minutes at Red Hill. Slide valve of No. 402 mail van worn.	
		„ 31	4.40 p.m. Portsmouth to London delayed 3 minutes between Dorking and Box Hill. Hose coupling on No. 202 horse-box burst.	
		Nov. 2	4.57 p.m. Polegate to Hastings delayed 3 minutes outside Polegate. Apparently owing to leakage of triple valve on No. 630 first-class carriage through slide valve of triple being worn.	

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London, Brighton, and South Coast—*cont.*	Westinghouse Continuous Automatic Air Brake—*cont.*	Nov. 14	9.55 a.m. Eastbourne to London Bridge delayed 5 minutes at Red Hill. Slide valve of triple on No. 378 composite carriage worn.	
		Dec. 2	5.47 p.m. London to Dorking delayed 2 minutes at Box Hill. Donkey pump main valve rings broken.	
		„ 5	5.10 p.m. London Bridge to Epsom delayed 8 minutes between London Bridge and West Croydon. Frost in brake pipes.	
		„ 14	8.55 a.m. London Bridge to New Cross empty delayed 5 minutes at New Cross. Hose coupling on No. 271 second-class carriage burst.	
		„ 23	4.53 p.m. Kensington to Clapham Junction delayed 3 minutes between Kensington and Earl's Court Junction. Hose coupling on engine burst.	
		„ 24	2.38 p.m. Dorking to London Bridge delayed 2 minutes between Box Hill and Leatherhead. Steel branch pipe leading from main to triple valve broke in union collar on No. 620 third-class brake.	
		„ 24	11.45 a.m. Hastings to London delayed 3 minutes at Lewes. Coupling head packing ring on No. 221 plain van worn.	
		„ 30	8.32 a.m. Streatham Hill to London Bridge delayed 5 minutes between Streatham Hill and Gipsy Hill. Brake rubbing on No. 742 first-class carriage, apparently owing to frost.	
		„ 31	7.31 a.m. London Bridge to Victoria delayed 4 minutes at London Bridge. Frost in coupling between Nos. 746 first and 531 second-class carriages.	
	— —	No failures reported.	—	Automatic Vacuum brake. 7,409 miles.
London, Chatham, and Dover.	Westinghouse Continuous Automatic Air Brake. (196 engines fitted. *See* Return No. 1.)		1. Nil.	2,036,102 miles.
			2. *Failure or partial failure to act under ordinary circumstances to stop a train when required.*	
		Sept. 30	7.45 p.m. Chatham to Victoria. Overshot platform at Rochester two coach lengths. Cocks shut between third and fourth vehicles from engine (nine on).	
		Oct. 6	9.5 a.m. Loughboro' to Moorgate Street. Overshot platform at Camberwell five coach lengths. Cocks not open between engine and train. Fault of Company's servants.	
		„ 27	7.55 a.m. Victoria to Moorgate Street. Overshot platform at Camberwell 4 coach lengths. Defective hose-pipe washer on leading end of engine. Four minutes delay.	
		Nov. 5	12.0 noon Dover to Victoria. Overshot platform at Rochester 12 coach lengths. Cock between assisting and train engine shut by foreman shunter after having been opened. Four minutes delay.	
			3. *Delay in the working of trains in consequence of defects in or improper action of the brake.*	
		July 4	10.1 a.m. Wood Green to Victoria. 11 minutes at King's Cross (G.N.) detaching Great Northern Company's horse-box No. 1181 owing to coupling hose-pipe leaking.	

1. Name of Railway Company.	2. Name or Description of brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
London, Chatham, and Dover—*cont.*	Westinghouse Continuous Automatic Air Brake—*cont.*	July 5	6.20 p.m. Holborn to Chatham. Five minutes between Dulwich and Sydenham Hill. Fault of engineman.	
		„ 5	5.57 p.m. Victoria to Faversham. Three minutes at Teynham, coupling hose burst on No. 15 composite.	
		„ 7	3.0 p.m. Ashford to Sevenoaks. Three minutes at Harrietsham, coupling hose burst on No. 340 Midland Company's fruit van.	
		„ 14	7.20 p.m. Ramsgate to Faversham. Seven minutes in Ramsgate tunnel and at Herne Bay, through leakage at union nut on main pipe from driver's brake valve to reservoir.	
		„ 16	1.20 p.m. Holborn to Dover. 12 minutes through coupling hose bursting at Swanley and changing it at Chatham, No. 64 brake-van.	
		„ 19	9.30 a.m. Victoria to Ramsgate. Five minutes just after leaving Margate, coupling hose burst on No. 46 first class.	
		„ 22	12.0 noon Dover to Victoria Nine minutes at Strood, error of judgment on part of driver in working brake. Two engines on.	
		„ 22	9.57 p.m. Herne Hill to Holborn. Four minutes between Herne Hill and Loughboro', coupling hose burst on Great Northern fruit van No. 19,325.	
		„ 27	1.30 p.m. Ramsgate to Victoria. Six minutes at Farningham through coupling hose bursting on No. 97 first class.	
		Aug. 6	11.0 a.m. Victoria to Dover. Seven minutes at Selling, leakage at nipple of reservoir on tender.	
		„ 12	9.20 a.m. St. Paul's to Catford. Four minutes through coupling hose bursting on No. 173 first class.	
		„ 13	8.15 p.m. Victoria to Dover. 15 minutes lost after passing Sittingbourne through 1-inch cock at rear end of No. 70 brake van leaking.	
		„ 18	8.15 p.m. Victoria to Dover. Three minutes between Teynham and Faversham through defective hose pipe washer No. 27 brake-van.	
		„ 21	6.46 p.m. Faversham to Victoria. Five minutes at Longfield siding through brake going on a carriage. Not sufficient reserve pressure. Fault of engineman.	
		„ 29	4.20 p.m. Victoria to Dover. Seven minutes changing engines at Faversham, escape valve spring of driver's brake valve broke. Engine No. 38.	
		Sep. 2	6.45 a.m. Dover to Victoria. Five minutes near Teynham through coupling hose bursting No. 107 second class.	
		„ 2	2.40 p.m. Margate to Victoria. Five minutes at St. Mary Cray, leakage in train pipe on engine at union nut under foot-plate.	
		„ 5	5.25 p.m. Dover to Victoria. Four minutes at Herne Hill through breakage of draw gear on three vehicles, caused by defective leather washer in driver's brake valve.	
		„ 7	10.0 a.m. Dover to Victoria. Eight minutes at Dover Priory, changing leaky coupling hose on No. 74 brake van. Defective washer.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
London, Chatham, and Dover—*cont.*	Westinghouse Continuous Automatic Air Brake—*cont.*	Sept. 8	8.50 a.m. Beckenham to St. Paul's. Five minutes at Walworth through main cock breaking.	
		„ 14	10.0 a.m. Ramsgate to Victoria. Five minutes at Birchington, coupling hose burst on No. 329 third class.	
		Oct 1	6.20 p.m. Holborn to Chatham. Five minutes at Swanley, nipple of reservoir on No. 351 third class broken.	
		„ 10	5.15 p.m. Victoria to Ramsgate. Five minutes at Rainham, through leakage at back nut on branch pipe leading to triple valve on No. 390 third class.	
		„ 17	3.30 p.m. Dover to Victoria. Three minutes at Chatham, brake leaked on No. 396 third class carriage. Cannot say cause.	
		„ 18	4 30 p.m. New Brompton to Victoria. Seven minutes at Chatham detaching No. 220 third class with broken main cock.	
		Nov. 18	7.45 p.m. Chatham to Victoria. 14 minutes through coupling hose bursting between Shortlands and Beckenham on Great Northern carriage truck No. 1148, and detaching truck at Beckenham.	
		„ 21	11.0 a.m. Victoria to Dover. Ten minutes lost on journey through leaky ¾-inch cock on No. 31 brake-van.	
		„ 28	7.17 p.m. Sevenoaks to Ashford. Five minutes at Sevenoaks, reversing piston rod of pump broke.	
		Dec. 1	4.22 p.m. St. Paul's to Catford. Five minutes at Blackfriars and Walworth, union nut of hose pipe slacked back between Nos. 204 and 206 first class.	
		„ 4	9.35 p.m. Gravesend to Victoria. Ten minutes through ½-inch cock between engine and tender breaking off.	
		„ 18	3.15 p.m. Victoria to Faversham. Nine minutes at Strood, union nut joint leaking of pipe leading from pump to main reservoir.	
		„ 27	6.45 a.m. Dover to Victoria. Seven minutes releasing brake between Dover and Kearsney, and changing engine at Faversham, escape valve spring of driver's brake valve broke.	
		„ 28	8.33 a.m. St. Paul's to Gravesend. Three minutes through brake pipes not being properly coupled up between No. 403 third-class and No. 55 brake-van.	
		„ 30	5.25 p.m. Dover to Victoria. Seven minutes through union nut joint of flexible pipe between engine and tender blowing out.	
	—	No failures reported.	—	Automatic Vacuum Air Brake. 585 miles.
Londonderry - -	- - -	No failures reported.	—	Westinghouse Automatic Brake. 20,100 miles.

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
London, Tilbury, and Southend.	Westinghouse Automatic Brake. (36 engines fitted. *See* Return, No. 1.)		1 and 2. Nil.	463,834 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 22	10.14 p.m. train from Barking to Shoebury. Air pump stopped working owing to the main steam passage leading to reversing valve being blocked on engine No. 6. Hand-brake used Dagenham to Shoebury.	
		„ 28	8.38 a.m. train from Fenchurch Street to Shoebury. Air-pump failed on engine No. 14 owing to reversing piston rod and rings breaking. Hand-brake used, East Ham to Tilbury.	
		Aug. 28	7.48 p.m. train from Fenchurch Street to Shoebury. Air-pump failed on engine No. 23 owing to some obstruction getting into the exhaust pipe of reversing piston. Hand-brake used Burdett Road to Plaistow, and engines changed at Plaistow.	
		Oct. 25	12.15 p.m. train from Fenchurch Street to Shoebury. Six minutes delayed at Plaistow. Air pump failed on engine No. 13. Delay caused at Paistow changing engines.	
		Nov. 3	9.13 a.m. train from Fenchurch Street to Tilbury. Four minutes delay owing to leakage between air-pump and driver's valve on engine No. 27, train stopped between Purfleet and Grays by Westinghouse brake applying itself. Hand-brake used from there to Tilbury.	
		Dec. 14	5.38 a.m. train from Tilbury to Fenchurch Street. Four minutes delay at Rainham. Air pump stopped working on engine No. 9 owing to reversing piston breaking. Delay caused by releasing brake from carriages. Hand-brake used, Rainham to Fenchurch Street.	
		No failures reported.	—	Clark and Webb's chain brake. 488 miles.
Manchester and Milford.	—	No failures reported.	—	Automatic Vacuum Brake. 20,545 miles.
Manchester, Sheffield, and Lincolnshire.	Vacuum Automatic Brake. (219 engines fitted, and 328 goods engines available for passenger trains as occasion may require. *See* Return No. 1.)		1 and 2 Nil.	2,020,321 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 1	10.15 a.m. Retford to Cleethorpes. Slightly overran platform at Gainsboro'. Train pipe between engine and tender No. 434 collapsed from ordinary wear and tear.	
		„ 11	8.6 a.m. Guide Bridge to Manchester. At Fairfield, Gorton, and Ashburys. Brake slow in releasing obstacle in Train pipe which eventually disappeared and brake worked all right afterwards. Engine No. 622.	
		„ 25	4.5 p.m. Manchester to Sheffield. Between Guide Bridge and Woodhead. Brake not properly off owing to a defective converting cock. L. & N.W. stock.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Manchester, Sheffield, and Lincolnshire—*cont.*	Vacuum Automatic Brake—*cont.*	July 26	3.42 p.m. Retford to Manchester. Between Worksop and Shireoaks. Pipe at end of Great Northern brake-van No. 1857 leaking. Failure of material.	
		Aug. 20	7.37 p.m. Wakefield to Barnsley. Between Hare Park and Ryhill. Blocks rubbing on wheels of engine No. 203, owing to cylinder piston sticking. Cause not known.	
		„ 22	4.5 p.m. Manchester to Sheffield. Between Manchester and Dunford Bridge. Brake not properly off owing to a defective converting cock. L. & N.W. stock.	
		Sept. 4	8.20 p.m. Stockport to Guide Bridge. At Woodley West. Cylinder piston on tender of engine No. 381 stuck. Train pipe collapsed from ordinary wear and tear.	
		„ 4	7.0 a.m. Manchester to Cleethorpes. At Crowden. Brake slow in releasing cylinder piston on third coach from rear had stuck owing to rolling ring twisting. Ordinary wear and tear.	
		„ 6	10.10 a.m. Retford to Manchester. On journey blocks rubbing on wheels of engine No. 17. Cylinder piston had stuck owing to defective rolling ring. Ordinary wear and tear.	
		Oct. 8	9.15 a.m. Sheffield to Mexbro'. On journey. Brake difficult to keep off. Cylinder piston on engine No. 257 stuck. Due to foreign matter having got into cylinder.	
		Nov. 14	6.0 a.m. Sheffield to Manchester. On journey to Dunford Bridge. Small ejector failed to maintain sufficient vacuum to keep brake off. Dirt on cone. Neglect of staff. Engine No. 10.	
		Dec. 5	8.42 a.m. Wigan to Manchester. At Strangeways and Bickershaw. Brake difficult to release. Cylinder piston on tender of engine No. 547 sticking. Moisture in cylinder acted upon by frost.	
		„ 26	7.20 p.m. Sheffield to Mansfield. At Steetley. Brake applied itself. Rolling ring in cylinder of engine No. 257 twisted. Ordinary wear and tear.	
Manchester South Junction and Altrincham.	- - -	No failures reported.	——	Automatic Vacuum Brake. 119,604 miles.
Maryport and Carlisle	- - -	No failures reported.	——	Automatic Vacuum Brake. 99,500 miles.
Mersey Railway -	Vacuum Automatic Continuous Brake. (18 engines fitted. *See* Return No. 1.)		1. and 2. Nil.	150,333 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Sept. 17	12.23 p.m. up train. Seven minutes delay near West Cabin, Liverpool Central Station, owing to rolling ring in right-hand cylinder of No. 12 engine becoming twisted. Failure of material.	

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Metropolitan	Smith's Vacuum Brake. (25 engines fitted. *See* Return No. 1.)		1. Nil.	967,201 miles.
			2. *Failure or partial failure to act under ordinary circumstances to stop a train when required.*	95,672 trains.
		Oct. 3	A train overran the platform of a station on the journey in consequence of the pipes between the engine and train coming uncoupled, causing a delay of three minutes. Neglect of coupler.	
		,, 17	A train overran the platform of a station on the journey its whole length, in consequence of the pipes between the engine and train coming uncoupled, one and half minutes delay. Struck by a piece of coal falling from coal bunker.	
		Nov. 9	A train overran the platform of a station on the journey the length of two coaches, in consequence of the pipes at the end of the train coming uncoupled, causing a delay of two minutes setting back. Neglect of coupler.	
		Dec. 17	A train ran through a station on the journey owing to the pipes at the front end of the engine becoming uncoupled, and a delay of ten minutes ensued. Neglect of coupler.	
			3. *Delay in the working of trains in consequence of defects in or improper action of the brake.*	
		Nov. 26	A train overran the platform of a station on the journey the length of four coaches, and on the cause being sought for it was found the rod had been pulled out of a carriage vacuum sack head, the thread having worn. A delay of eight minutes ensued.	
	Automatic Vacuum Brake. (45 engines fitted. *See* ReturnNo.1.)		1 and 2 Nil.	83,174 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	5,495 trains.
		Sept. 2	The brake failed on the journey, the driver not being able to keep it off; assumed to have been caused by grit in the ejector valve, as nothing could be discovered wrong with the ejector when taken to pieces. Delay twenty minutes.	
		Oct. 6	The brake could not be released at a station in consequence of the piston rod becoming jammed, owing to not being quite square with the cylinder. Delay twelve minutes.	
		,, 13	A train was brought to a stand between two stations on account of the piston hanging up in consequence of the stocking encasing the rod catching and preventing the release of the brake. Delay of five minutes was caused.	
		,, 17	A train was delayed on journey on account of the piston hanging up in consequence of the stocking encasing the rod catching and preventing the release of the brake. Delay of seven minutes was caused.	
		,, 25	A train could not start from a station on account of the piston hanging up in consequence of the stocking encasing the rod catching and preventing the release of the brake. Delay of six minutes was caused.	

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Metropolitan District -	Westinghouse Automatic Brake. (54 engines fitted. *See* Return No. 1.)		1. and 2. Nil.	780,635 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 7	The brakes of the 8.36 a.m. train from Wimbledon to Whitechapel hung up at several stations en route due to driver's brake valve being out of order.	
		,, 30	The 6.8 p.m. train from New Cross to Richmond lost time between the former station and St. Mary's, Whitechapel, owing to the break going on No. 125 third-class coach, due to a defect in the triple valve.	
		Aug. 20	The 5.56 p.m. down train from Aldgate was brought to a stand between Portland Road and Baker Street owing to the breakage of a ½-in. cock on air brake pipe between engine No. 40 and train.	
		Nov. 5	The 9.24 a.m. Great Western train ex Mansion House stopped about 100 yards short of Temple Station through vacuum brake working itself on.	
Midland - - -	Vacuum Automatic Brake. (1,184 engines fitted. *See* Return No. 1.)		1. and 2. Nil.	7,685,784 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Nov. 5	8.37 p.m. train from Carlisle to Leeds. Three minutes delay in running from Carlisle to Hellifield, owing to joint of pipe to gauge of engine No. 1809 breaking. Failure of material.	
		,, 21	2.35 p.m. train from Birmingham to Kings Norton. Four minutes delay at Camp Hill, disconnecting piston rod of third-class brake No. 1490, which had become bent. Neglect of servant.	
		Dec. 3	2.40 p.m. train from Manchester to Derby. Thirteen minutes delay near Millers Dale, where the train was stopped by a copper pipe on engine No. 897 breaking in consequence of wear and tear.	
	Westinghouse Automatic Air Brake (24 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	3,681 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Aug. 1	7.20 p.m. excursion train from Morecambe to Leeds. Fifteen minutes delay near Gargrave, owing to rear hose pipe of Glasgow and South-Western carriage No. 124 bursting.	
		Oct. 1	7.35 a.m. train from Bakewell to Derby. Seven minutes delay at Whatstandwell, owing to air pump of engine No. 66 ceasing to work, through valves being clogged.	
		,, 5	7.15 p.m. excursion train from Bradford to Leeds Junction. Six minutes delay in running from Kirkstall to Leeds. The air pressure leaked away without applying the brake, owing to stop-cock on rear vehicle being partly open, and hand brakes had to be used for stopping. Fault of servant.	

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Midland—*cont.*	Westinghouse Automatic Air Brake —*cont.*	Nov. 4	11.5 a.m. train from Leeds to Sheffield. Seven minutes delay at Altofts and Masborough, owing to triple valve sticking on engine No. 817 after stopping at signals.	
Midland and South-Western Junction.	- - -	No failures reported.	——	Continuous Automatic Vacuum Brake. 114,433 miles.
Neath and Brecon -	- - -	No failures reported.	——	Automatic Vacuum Brake. 14,263 miles.
North-Eastern - -	The Westinghouse Automatic Brake (585 engines fitted. *See* Return, No. 1.)		1. Nil.	6,313,246¾ miles
			2. *Failure or partial failure to act under ordinary circumstances to stop a train when required.*	
		July 11	7.30 p.m. train, Newcastle to Durham, engine No. 169. Overran the platforms at Elswick, Scotswood, and Swalwell. The brake on the train not holding properly, required adjusting. Fault of servant.	
		Oct. 17	12.35 p.m. train, South Shields to Newcastle, engine No. 1603. Overran the platform at High Shields. The inch tap between L. & Y. carriage truck No. 97 and N.E. van (No. not given), 2nd and 3rd vehicles from the engine, being shut.	
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 2	7.55 train, Durham to Newcastle, engine No. 1439. 6 minutes between Low Fell and Gateshead, the brake being on upon third-class carriage No. 911.	
		,, 5	6.25 p.m. train, York to Edinboro', engine No. 933. 10 minutes lost between Newcastle and Berwick, the steam pipe nipple of donkey pump broken off when passing Warkworth.	
		,, 13	1.0 a.m. train, York to Newcastle, engine No. 1495. 7 minutes at Otterington, the pipe from driver's valve to pressure gauge broken. Faulty fitting.	
		,, 13	11.15 p.m. train, Newcastle to York, engine No. 1546. 4 minutes at Darlington, the brake being on upon E.C. composite carriage No. 29.	
		,, 15	2.50 p.m. train, York to Hull, engine No. 1269. 8 minutes near Fangfoss, the main pipe under the buffer beam of the engine giving way. Fault of fitting up.	
		,, 20	11.0 a.m. train, Hull to Scarboro', engine No. 29. 2 minutes lost by donkey pump stopping, the nut on the lower main piston having slacked back, the piston worked loose on the rod and broke one of the packing rings. Fault of fitter.	
		,, 23	6.38 a.m. train from Hull to Withernsea, engine No. 1896. 6 minutes at Hull, the donkey pump stopped, the steam way from reversing piston chamber to the reversing valve chamber being blocked with dirt, which had apparently found its way from the boiler.	

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North Eastern—*cont.*	The Westinghouse Automatic Brake. —*cont.*	July 28	5.20 p.m. train, Berwick to Newcastle, engine No. 933. 4 minutes at Forest Hall, the brake being on upon van No. 259. Want of adjustment Fault of servant.	
		Aug. 1	9.20 a.m. train, Scarboro' to York, engine No. 257, 2 minutes at Haxby. Hose-pipe on G.N. horse-box No. 1156 burst.	
		,, 2	1.20 p.m. train, Hornsea to Hull, engine No. 705. 10 minutes lost. Donkey pump stopped, the upper main piston valve nut becoming loose on the rod. Fault of fitter.	
		,, 2	11.25 p.m. train, South Shields to Sunderland, engine No. 37. 4 minutes lost. Donkey pump stopped, the copper casket in the steam cylinder broken, a portion of this was missing and may have lodged in the pump, but it could not be found.	
		,, 4	2.30 p.m. train, Newcastle to Monkseaton, engine No. 423. 2 minutes at Newcastle. Donkey pump stopped, the air cylinder blocked with caked oil and dirt, due to an excessive use of oil in the air parts. Fault of driver and fitter.	
		,, 4	10.45 a.m. train, Leeds to Newcastle, engine No. 803. 2 minutes at Arthington. Donkey pump stopped. The steam and air rings in bad condition and pump very dirty. Fault of fitter for not taking pump off when reported.	
		,, 8	1.50 p.m. train, Scarboro' to York, engine No. 1536. 5 minutes at Strensall. Hose-pipe on G.N. carriage truck No. 1677, burst.	
		,, 10	3.35 a.m. train, York to Edinboro', engine No. 847. 3 minutes at Killingworth, the brake being on upon G.N. sleeping carriage No. 2294 and E.C. composite No. 28 and van No. 24. The top spring in the driver's brake valve broken.	
		,, 12	6.10 a.m. train, Newcastle to Ilkley, engine No. 392. 7 minutes at Northallerton, the brake being on upon third-class carriage No. 2742. Central valve in triple valve dirty.	
		,, 13	2.15 p.m. train, York to Saltburn, engine No. 40. 9 minutes at Alne, the brake being on upon composite carriage No. 20. Fault of driver.	
		,, 13	5.50 p.m. train, Milford Junction to Hull, engine No. 463. 3 minutes at Selby. Donkey pump stopped. One of the lower main valve rings broken. Faulty material.	
		,, 15	2.30 p.m. train, Edinboro' to York, engine No. 75. 5 minutes at Inveresk, the brake being on upon E.C. composite carriage No. 129.	
		,, 17	11.0 p.m. train, Hull to Beverley, engine No. 1533. 4 minutes at Hull, the brake being on upon train. Fault of driver.	
		,, 22	2.50 p.m. train, Edinboro' to York, engine No. 1474. 3 minutes at Benshan, the brake being on upon E.C. van No. 84.	
		,, 22	6.25 p.m. train, York to Edinboro', engine No. 848. 25 minutes between Reston and Edinboro'; the air pipe from donkey pump to main reservoir broken at the valve case end of pipe.	

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North-Eastern—*cont.*	The Westinghouse Automatic Brake —*cont.*	Aug. 26	8.15 p.m. train, Durham to Newcastle, engine No. 201. 9 minutes at Consett, caused by a leak in the hose couplings between engine and horse box No. 213. The rubber washer in the hose coupling on engine was defective.	
		Sept. 2	9.50 a.m. train, Hull to Withernsea, engine No. 1890. 2 minutes at Withernsea, the brake being on upon van third No. 461. Fault of driver.	
		,, 2	6.35 p.m. train, York to Newcastle, engine No. 1325. 8 minutes at Otterington. Hose-pipe on L. & N.W. waggon No. 53879 burst.	
		,, 5	11.50 a.m. train, Leeds to Ilkley, engine No. 65. 6 minutes by stopping at Holbeck and Burley sidings, the brake being on upon van No. 2197, the slide valve spring in triple valve broken.	
		,, 6	6.20 p.m. train, Leeds to Hartlepool, engine No. 1162. 13 minutes at Headingley. The half-inch cock on carriage-truck No. 40 broken. Faulty material.	
		,, 7	1.45 p.m. train, Newcastle to Morpeth, engine No. 953. 2 minutes at Newcastle, the brake being on upon third-class carriages Nos. 501 and 2266 and composite-carriage No. 21. Fault of driver.	
		,, 13	8.20 a.m. train, Scarboro' to York, engine No. 85. 4 minutes at Scarboro'. Unable to get donkey pump to work, reversing piston rings broken. Faulty material.	
		,, 13	5.30 p.m. train, Saltburn to Scarboro', engine No. 801. 2 minutes near Saltburn, the brake being on upon train. The top valve spring of driver's brake valve broken.	
		,, 14	10.15 a.m. train, Scarboro' to York, engine No. 464. 5 minutes between Heslerton and Weaverthorpe. The hose-pipe on Midland third-class carriage No. 633, burst.	
		,, 16	10.15 a.m. train, Scarboro' to York, engine No. 679. 2 minutes at Weaponess cabin, the brake being on upon the front van. Fault of driver.	
		,, 16	10.20 a.m. train, Edinboro' to York, engine No. 848. 2 minutes between Bilton and Morpeth. Hose-pipe on G.N. van No. 1001 burst.	
		,, 16	10.45 a.m. train, Leeds to Newcastle, engine No. 684. 8 minutes at Littlethorpe, the half-inch cock on tender broken. Faulty material. 2 minutes further loss owing to the hand-brakes being used.	
		,, 17	7.25 p.m. train, York to Normanton, engine No. 693. 3 minutes at Ulleskelf. Donkey pump stopped, the upper main valve piston coming loose on the rod.	
		,, 19	12.15 a.m. train, Hull to North Wales, engine No. 59. 4 minutes at Hessle Road, the brake being on upon one of the carriages (No. not known). Fault of driver.	
		,, 19	8.20 a.m. train, Newcastle to Berwick, engine No. 933. 2 minutes at Belford, the brake being on upon third-class carriage No. 2217. Central valve washer in triple valve defective.	

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North-Eastern—*cont.*	The Westinghouse Automatic Brake—*cont.*	Sept. 19	5.15 p.m. train, Edinboro' to Newcastle, engine No. 1520. 12 minutes between Longhoughton and Alnmouth, the connecting pipe from triple valve to main valve on the engine broken.	
		,, 22	1.35 p.m. train, Doncaster to Bridlington, engine No. 1106. 9 minutes at Thorne Colliery detaching third-class carriage No. 2598 with hot wheels and brake blocks, the brake having been on upon it. Fault of driver not working the brake handle properly.	
		,, 30	3.0 p.m. train, Scarboro' to Leeds, engine No. 257. 13 minutes lost between Malton and York, the donkey pump stopped. Lower main valve stopper broken.	
		Oct. 4	11.0 a.m. train, Hull to Scarboro', engine No. 1897. 5 minutes between Bridlington and Flamboro', the brake being on upon third-class carriage No. 2270. Fault of driver not working the brake properly.	
		,, 5	12.50 p.m. train, Barnard Castle to Middlesboro', engine No. 1380. 6 minutes at Bishop Auckland by a leak at the hose-couplings on tender, the washer being defective.	
		,, 6	10.35 a.m. train, Durham to Bishop Auckland, engine No. 1298. 5 minutes after leaving Brancepeth, the air valve case nipple broken. Faulty material.	
		,, 8	3.10 p.m. train, Sunderland to Newcastle, engine No. 343. 10 minutes at Sunderland. The donkey pump stopped, defective piston rings.	
		,, 8	6.25 p.m. train, York to Newcastle, engine No. 847. 6 minutes at Durham, the brake being on upon the train. Fault of driver not having sufficient pressure to release.	
		,, 10	10.25 a.m. train, Newcastle to Berwick, engine No. 368. 4 minutes between Warkworth and Berwick. The donkey pump steam pipe nipple broken.	
		,, 11	9.10 p.m. train, Bridlington to Hull, engine No. 1121. 7 minutes at Nafferton. The main pipe on third-class carriage No. 2642 broken. Faulty material.	
		,, 18	7.55 p.m. train, Newcastle to North Wylam, engine No. 635. 3 minutes at Delaval Colliery Cabin. Half-inch tap on slip carriage No. 1905 broken. Faulty material.	
		,, 19	8.30 p.m. train, York to Leeds, engine No. 491. 12 minutes lost between Micklefield and Leeds. The donkey pump stopped, the nut on the lower main piston valve having slacked back. Faulty material.	
		,, 22	9.30 a.m. train, Newcastle to York, engine No. 53. 3 minutes at Thirsk. The hose-pipe on Midland van No. 38 burst.	
		,, 28	6.55 p.m. train, Alnwick to Newcastle, engine No. 1445. 4 minutes between Summit and Edlingham by the pump stopping, the reversing valve rod broken. Faulty material.	
		Nov. 8	3.40 a.m. train, York to Newcastle, engine No. 1470. 1 minute between Skelton and Shipton. The hose-pipe on van No. 289 burst.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
North-Eastern—*cont.*	The Westinghouse Automatic Brake —*cont.*	Nov. 11	1.45 p.m. train, Hull to Doncaster, engine No. 328. 4 minutes at Hull. The main pipe on fish-waggon No. 31,563 broken at the socket near the end rail. Defective material.	
		„ 17	8.15 p.m. train, Doncaster to York, engine No. 1947. 10 minutes at Doncaster. The main pipe on fish-waggon No. 24,200 broken off at the inch tap. Defective pipe.	
		„ 18	7.55 p.m. train, Stockton to Whitby, engine No. 281. 8 minutes lost by donkey pump not working properly. Want of lubrication, the tube in the lubricator having slipped.	
		„ 19	10.0 a.m. train, Normanton to York, engine No. 1936. 10 minutes lost by the donkey pump stopping. A piece of the lower main valve had broken off, and jammed itself in one of the port ways. Faulty material.	
		„ 19	9.10 p.m. train, Blyth to Newcastle, engine No. 953. 6 minutes lost between Teghill and Newcastle by donkey pump stopping. Part of the copper gasket broke away and blocked the passages.	
		„ 22	9.52 a.m. train, Hull to York, engine No. 1933. 5 minutes at Hull by the hose-couplings on rear van No. 285 and horse-box No. 273 not being properly connected, causing a leak. Fault of shunter.	
		„ 23	3.20 p.m. train, York to Edinboro', engine No. 1469. 5 minutes at Northallerton by the union nut on the main pipe on the engine having slacked back, causing a leak.	
		„ 26	5.47 p.m. train, Hull to Hornsea, engine No. 1855. 4 minutes lost by the donkey pump stopping. The nut on the main air piston broken. Faulty material.	
		„ 27	1.0 a.m. train, York to Edinboro', engine No. 115. 9 minutes at Cramlington. The hose-pipe on G.N. van No. 2298 burst.	
		„ 27	3.45 a.m. train, York to Newcastle, engine No. 849. 6 minutes near Preston-le-Skerne. The hose-pipe on Midland and North-Eastern Joint P.O. van No. 79 burst.	
		Dec. 20	3.20 p.m. train, York to Edinboro', engine No. 1469. 12 minutes at Bradbury. The hose-pipe on G.N. van No. 1040 burst.	
		„ 22	8.25 a.m. train, Alnwick to Newcastle, engine No. 1452. 4 minutes between Pegswood and Morpeth. The air pipe from donkey pump governor to main pipe broken.	
		„ 24	4.20 p.m. train, Leeds to Newcastle, engine No. 1506. 3 minutes at Stockton, the brake being on upon van No. 276. The drip cup of triple valve frozen.	
		No failures reported.	—	Vacuum Automatic Brake. 18,876¼ miles.

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
North London -	Clark and Webb's Chain Brake. (This brake has now been discarded.)		1 and 2. Nil.	932,149 miles. (Including Automatic Vacuum Brake.)
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Aug. 9	Fifty minutes delay at Bow through brake of brake-van No. 51 hanging on wheels. Fault of block adjuster.	
	Automatic Vacuum Brake. (67 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Sept. 19	Three minutes delay at Haggerston, through steam-pipe union nut joint of engine No. 52 blowing. Failure of material.	
		„ 26	Three minutes delay at Dalston through disc of combination ejector of engine No. 22 working off face, owing to nut on spindle slacking back. Neglect of servants.	
		Oct. 11	Three minutes delay at Broad Street, through blocks of engine No. 23 not coming off. Could not arrive at a definite cause.	
		Nov. 1	Eight minutes delay at Chalk Farm through vacuum ejector packing-nut of engine No. 1 slacking back. Neglect of servants.	
		„ 4	A delay of a minute or two at Broad Street through vacuum piston of brake-van No. 1 temporarily sticking. Failure of material.	
		Dec. 9	A delay of a minute or two at Broad Street through vacuum steam pipe joint of engine No. 69 blowing. Failure of material.	
North Staffordshire -	- - -	No failures reported.	—	Vacuum Brake. 1,302 miles. Automatic Vacuum 676,331 miles.
Pontypridd, Caerphilly, and Newport.	- -	No failures reported.	—	Fay's Brake. 1,280 miles. Vacuum Automatic Brake. 4,970 miles.
Rhondda and Swansea Bay.	- - -	No failures reported.	—	Automatic Vacuum 29,591½ miles.
Rhymney - -	- - -	No failures reported.	—	Westinghouse Automatic Brake. 99,037 miles.
Severn and Wye and Severn Bridge.	- - -	No failures reported.	—	Vacuum Automatic Brake. 33,305 miles.
Somerset Joint Committee.	- - -	No failures reported.	—	Vacuum Automatic Brake. 315,787 miles.

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
South-Eastern - -	Simple Vacuum Brake.		1. Nil.	3,135,844 miles.
			2. *Failure or partial failure to act under ordinary circumstances to stop a train when required.*	
		Sept. 30	The 6.20 p.m. up Blackheath train overran London Bridge platform three carriage lengths, owing to the automatic pipe on engine No. 328 not being properly placed on the dummy. It is supposed that the shunter in coupling up had inadvertently disturbed the pipe on the dummy.	
		Oct. 3	The 2.50 p.m. Charing Cross to Blackheath train overran Waterloo platform the length of the train. The shunter in coupling up the train had in error coupled up the automatic pipes on engine No. 18 and the van next to it, No. 108, instead of the simple brake pipes.	
		Nov. 3	The 4.45 p.m. train from Cannon Street to Charing Cross overran Waterloo platform half the length of the train. This was caused by the shunter at Cannon Street coupling up the automatic pipe on engine No. 193 instead of the simple brake pipes.	
			3. Nil.	
	Automatic Vacuum Brake. (305 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	(Included above.)
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Aug. 13	The 6.15 p.m. down Ashford train was delayed two minutes at Waterloo in consequence of engine No. 17 being set to work simple vacuum and the shunter at Charing Cross having coupled up the automatic pipes. This was the result of a misunderstanding between the shunter and driver.	
		Aug. 19	The 2.52 p.m. down Ashford train was delayed one minute at London Bridge owing to a leakage in the train pipe of first-class carriage No. 1475. It was found that this leakage was caused by a nut being stripped.	
		Sept. 3	The 7.20 p.m. up Dover train was delayed three minutes after starting from Ashford. It was found that the brake pipe had not been properly placed on the dummy on the rear vehicle No. 36, which had been attached at Ashford.	
		„ 23	The 3.5 p.m. empty passenger train from Charing Cross to Rotherhithe Road, was delayed four minutes at London Bridge uncoupling the brake, in consequence of the brake piston of engine No. 209, which was defective, having become fast.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
South-Eastern—*cont.*	Automatic Vacuum Brake —*cont.*	Oct. 30	The 3·55 p.m. up Continental express lost five minutes on the journey in consequence of the brake blocks bearing on the carriage wheels. The train had been worked from Folkestone Harbour to Folkestone Junction by engines Nos. 153 and 154 with a greater vacuum than could be obtained by engine No. 214 which worked the train from Folkestone Junction to Cannon Street.	
		Nov. 2	The 4.27 p.m. down Guildford train lost five minutes on the journey between Cannon Street and Norwood, owing to the brake blocks bearing on the wheels of the carriages. Engine No. 23 had brought the train into Cannon Street with a higher vacuum than could be obtained by engine No. 25, which was attached at Cannon Street.	
		„ 10	The 4.57 p.m. train from Beckenham Junction to Charing Cross was delayed ten minutes at Beckenham Junction owing to the washer coming off the front automatic pipe coupling of engine No. 304.	
		„ 10	The 8.45 a.m. up Hastings train was delayed seven minutes at Cannon Street owing to engine No. 32 being unable to release the brake on the train. Engine No. 79 had worked the train to Cannon Street with a higher vacuum than could be obtained by engine No. 32, which was put on the train at Cannon Street.	
		„ 15	The 7.30 p.m. down Tunbridge Wells train was delayed two minutes at Tonbridge, owing to the shunter being unable to uncouple the brake pipes between the tender of engine No. 270 and third-class carriage No. 1699. The couplings were afterwards examined and found to be in good order.	
		„ 15	The 1.25 p.m. up Reading train was delayed three minutes between Guildford and Gomshall owing to a leakage in a hose-pipe of Great Western Railway horse-box No. 676.	
		„ 18	The 9.30 p.m. down Tunbridge Wells train was delayed six minutes at Chislehurst owing to the driver being unable to keep the brake off engine No. 311. It was found on examination that the engine brake piston rod packing rings were defective.	
		„ 30	The 9.50 a.m. down Blackheath train was delayed three minutes at Cannon Street owing to the automatic brake coupling on engine No. 34 being broken. It was supposed this was caused by the ball of the screw coupling flying round and striking it.	
		Dec. 6	The 9.45 a.m. up Ashford train was delayed seven minutes between Penshurst and Edenbridge owing to the driver being unable to release the brake on the tender of engine No. 246. It was found that the rolling was defective.	
		„ 9	The 7.15 p.m. Charing Cross to Tunbridge train was delayed nine minutes at Nutfield owing to the piston rod packing ring of the tender of engine No. 145 being defective and preventing the release of the brake on the tender.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5 Number of Miles run by Trains fitted with Continuous Brakes.
South-Eastern—*cont.*	Automatic Vacuum Brake —*cont.*	Dec. 14	The 4.10 p.m. down Dartford train was delayed 13 minutes at St. John's owing to the driver of engine No. 230 being unable to release the brake on the train. It was stated that the piston of a carriage brake cylinder had become fast. The brakes on the carriages were examined afterwards and found to be in working order.	
		„ 17	The 8.0 p.m. up Tonbridge train was delayed four minutes at Penshurst owing to the driver being unable to release the brake on the tender of engine No. 56. It was found that the rolling ring was defective.	
		„ 24	The 7.54 p.m. up Addiscombe Road train was delayed 12 minutes at Lower Sydenham owing to the driver being unable to release the brake on engine No. 185. It was found that the small rubber pipe between the train pipe and the cylinder of tender brake had collapsed.	
		„ 24	The 4.22 p.m. up Tonbridge train viâ Red Hill was delayed two minutes in starting from Tunbridge owing to the shunter being unable to couple up the brake in consequence of the coupling being frozen on to the dummy of tender No. 245. When taking water at Red Hill on the previous journey some water had evidently been allowed to run on to the dummy.	
		„ 25	The 9.58 p.m. Addiscombe Road to Cannon Street train was delayed eight minutes at New Beckenham in consequence of the driver being unable to release the brake on engine No. 21. It was found that this was caused by ice having formed in the air passage between the cylinder and train pipe of the tender brake.	
		„ 26	The 8.40 a.m. Aldershot Town to Ash train was delayed two minutes at Aldershot Town in consequence of the driver being unable to release the brake on the tender of engine No. 186. This was caused by ice having formed between the cylinder and train pipe of tender brake.	
		„ 26	The 4.15 p.m. Charing Cross to Maidstone train was delayed three minntes at Cuxton in consequence of the driver being unable to release the tender brake of engine No. 234. This was caused by ice having formed in the air passage between the cylinder and train pipe.	
		„ 26	The 6.30 p.m. Margate to Ashford train was delayed five minutes at Chartham owing to the driver being unable to release the brake on the tender of engine No. 64. This was caused by ice having formed in the air passage between the cylinder and train pipe.	
		„ 27	The 9.55 p.m. Woolwich to Charing Cross train was delayed 21 minutes at Charlton in consequence of the driver being unable to release the tender brake of engine No. 231. This was caused by ice having formed in the air passage between the cylinder and train pipe.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
South-Eastern—*cont.* -	Automatic Vacuum Brake —*cont.*	Dec. 27	The 8.5 a.m. down Dover train was delayed 15 minutes at Tunbridge in consequence of the driver being unable to release the brake on engine No. 208. It was found that the ball valve chamber was frozen.	
		„ 27	The 7.4 a.m. Addiscombe Road to Cannon Street train was delayed eight minutes at London Bridge owing to the driver being unable to release the brake on engine No. 21. This was due to ice having formed in the air passage between the cylinder and train pipe of the engine brake.	
		„ 27	The 3.22 p.m. Charing Cross to Woolwich train was delayed 10 minutes at Charing Cross in consequence of the driver being unable to release the brake on the tender of engine No. 233. It was found that ice had formed in the air passage between the cylinder and train pipe of tender.	
		„ 29	The 7.15 p.m. up Hastings train was delayed four minutes at New Cross owing to the driver being unable to release the brake on engine No. 208. It was found that ice had formed in the air passage between the cylinder and train pipe of engine brake.	
		„ 29	The 8.15 p.m. down Dover mail was delayed two minutes at Dover Town station in consequence of the driver of engine No. 204 being unable to release the engine brake. This was caused by ice having formed in the ball valve chamber.	
		„ 29	The 7.30 a.m. down Wadhurst train was delayed five minutes at Halstead owing to the driver being unable to release the brake on the tender of engine No. 231. This was due to ice having formed in the air passage between the cylinder and train pipe of the tender brake.	
		„ 30	The 8.0 p.m. Walmer to Margate train was delayed 10 minutes at Ramsgate owing to the driver being unable to release the brake on engine No. 118. It was found that the ball valve chamber was frozen.	
		„ 30	The 7.5 p.m. up Tunbridge train was delayed five minutes at Red Hill by the rolling ring of the tender brake of engine No. 187 getting twisted and preventing the release of the brake.	
		„ 30	The 12.30 p.m. up Addiscombe Road train was delayed eight minutes at London Bridge owing to the driver being unable to release the brake of the tender of engine No. 231. This was caused by ice having formed in the air passage between the cylinder and train pipe of tender brake.	
		„ 30	The 7.28 a.m. down Gravesend train was delayed five minutes at Northfleet owing to the tender brake of engine No. 185 failing to come off. It was found that this was caused by ice having formed in the air passage between the brake cylinder and the train pipe.	

1. Name of Railway Company.	2. Name or Description of brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
South-Eastern—*cont.*	Automatic Vacuum Brake —*cont.*	Dec. 31	The 9.45 a.m. down Chatham train was delayed 12 minutes at Charing Cross owing to the driver being unable to release the brake on tender of engine No. 217. It was found that ice had formed in the air passage between the cylinder and train pipe of tender brake.	
Taff Vale - -	- - -	No failures reported.	—	Automatic Vacuum Brake. 220,142 miles.
West Lancashire -	- - -	No failures reported.	—	Westinghouse Automatic Brake. 100,778 miles.
Wirral - - -	- - -	No failures reported.	—	Automatic Vacuum Brake. 89,118 miles.
Wrexham, Mold, and Connah's Quay.	- - -	No failures reported.	—	Automatic Vacuum Brake. 21,891 miles.
SCOTLAND.				
Caledonian - -	Westinghouse Automatic Brake. (338 engines fitted. *See* Return No. 1.)		1 & 2. Nil.	3,653,445 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 1	5.40 p.m. train, Aberdeen to Perth, delayed 3 minutes between Dubton and Bridge of Dun. Cause: hose-pipe bursting on West Coast Joint Stock composite carriage No. 287.	
		,, 18	7.45 a.m. train, Newton to Saltcoats delayed 4 minutes at Kilwinning. Cause: hose-pipe bursting on Caledonian engine No. 453.	
		,, 18	2.0 p.m. train, Glasgow to Carlisle, delayed 3 minutes at Rutherglen. Cause: hose-pipe bursting on West Coast Joint Stock composite carriage No. 427.	
		,, 22	1.10 p.m. train, Aberdeen to Perth, delayed 5 minutes between Muchalls and Stonehaven. Cause: coupling-nut slacking back on Caledonian third-class carriage No. 373.	
		,, 23	7.35 p.m. train, Perth to Glasgow, delayed 4 minutes at Blackford. Cause: hose-pipe bursting on Highland Railway composite carriage No. 36.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Caledonian—*cont.*	Westinghouse Automatic Brake—*cont.*	July 23	4.5 p.m. train, Glasgow to Callander, delayed 2 minutes at Doune. Cause: hose-pipe bursting on Caledonian second-class carriage No. 766.	
		„ 26	8.40 p.m. train, Carlisle to Glasgow, delayed 10 minutes at Lockerbie and Beattock. Cause: hose-pipe bursting on West Coast Joint Stock composite carriage No. 427.	
		August 18	8.30 a.m. train, Carstairs to Edinburgh delayed 4 minutes at Carnwath. Cause: hose-pipe bursting on Caledonian third-class carriage No. 838.	
		„ 20	6.40 p.m. train, Irvine to Glasgow, delayed 7 minutes at Bogside. Cause: hose-pipe bursting on Caledonian horse-box No. 115.	
		„ 25	10.0 p.m. train, Glasgow to Dundee, delayed 6 minutes at Bridge of Allan. Cause: leakage of air at triple valve of Caledonian first-class carriage No. 161.	
		„ 26	3.57 p.m. train, Callander to Edinburgh, delayed 8 minutes between Linlithgow and Philipstown. Cause: nipple breaking on half-inch tap at drip cup on Caledonian engine No. 33.	
		Sept. 24	8.46 a.m. train, Glasgow to Gourock, delayed 3 minutes at Bishopton. Cause: hose-pipe bursting on tender of Caledonian engine No. 411.	
		Oct. 6	12.10 p.m. train, Glasgow to Hamilton, delayed 5 minutes at Motherwell. Cause: hose-pipe bursting on Caledonian composite carriage No. 23.	
		„ 29	4.40 p.m. train, Gourock to Glasgow, delayed 2 minutes at Paisley. Cause: hose-pipe bursting on Caledonian third-class carriage No. 358.	
		Nov. 14	1.12 p.m. train, Carlisle to Perth, delayed 5 minutes between Dinwoodie and Wamphray. Cause: hose-pipe bursting on Midland carriage-truck No. 221.	
		Dec. 6	12.55 p.m. train, Dumfries to Lockerbie, delayed 5 minutes at Shieldhill. Cause: hose-pipe on Caledonian engine No. 23 choked by inside layer of india-rubber pipe becoming detached and preventing escape of air from train pipe.	
		„ 10	3.55 p.m. train, Kilmarnock to Glasgow, delayed 4 minutes between Kilmaurs and Stewarton. Cause: hose-pipe bursting on Caledonian engine No. 195.	
	—	No failures reported.	—	Vacuum Brake. 7,040 miles.
Glasgow and South-Western.	Westinghouse Automatic Brake. (98 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	702,058 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 2	4.10 p.m. St. Enoch to Greenock, 4 minutes on journey by want of brake, owing to nut being off top of spindle of double piston valve.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Glasgow and South-Western—*cont.*	Westinghouse Automatic Brake—*cont.*	July 5	10.0 a.m. Ayr to St. Enoch, 3 minutes at Monkton owing to hose on rear of tender of engine No. 30 bursting.	
		,, 6	11.30 a.m. Stranraer to Glasgow, 2 minutes between Castlekennedy and Dunragit owing to joint of brake-pipe giving way on engine No. 73.	
		,, 7	9.50 a.m. Clyde Junction to Ayr, 5 minutes at Newton-on-Ayr owing to hose-pipe on No. 148 saloon bursting.	
		,, 9	2.30 p.m. St. Enoch to Ayr, 6 minutes at Shields Road owing to brake binding on No. 89 composite. No cause given.	
		,, 15	3.25 p.m. Ardrossan to Largs, 4 minutes between Ardrossan and West Kilbride by brake binding on train.	
		,, 27	5.0 a.m. Ardrossan to St. Enoch, 2 minutes at Kilbirnie owing to hose-pipe on No. 313 third-class bursting.	
		August 3	12.35 p.m. St. Enoch to Ayr, 3 minutes near Kilwinning by hose-pipe on No. 10389 dead meat-van bursting.	
		,, 13	10.15 a.m. Greenock to St. Enoch, 5 minutes at Crasshouse by hose-pipe on No. 94 third-class bursting.	
		,, 22	8.20 a.m. St. Enoch to Greenock, 6 minutes between Bridge of Weir and Kilmalcolm by hose-pipe on No. 160 first-class bursting.	
		,, 27	8.40 a.m. Ayr to St. Enoch, 8 minutes between Barassie and Irvine by hose-pipe on No. 10506 dead meat-van bursting.	
		,, 27	5.26 p.m. St. Enoch to Kilmarnock, 8 minutes at Crookston by hose-pipe on tender of engine No. 3 bursting.	
		Sept. 2	2.0 p.m. St. Enoch to Greenock, 3 minutes on journey. Pump not working. Engine No. 128.	
		,, 7	5.10 p.m. St. Enoch to Greenock, 4 minutes at Elderslie by hose-pipe on No. 307 third-class bursting.	
		,, 7	3.20 p.m. Ardrossan to Largs, 5 minutes at Ardrossan by hose-pipe on carriage-truck No. 10 bursting.	
		,, 14	5.5 p.m. St. Enoch to Greenock, 2 minutes at Kilmalcolm by brake binding on first-classes Nos. 29 and 30.	
		,, 15	6.50 p.m. Greenock to St. Enoch, 6 minutes on journey by brake binding on N.B. composite No. 285.	
		,, 15	3.0 p.m. Ayr to Ardrossan, 5 minutes at Ayr by hose-pipe on third-class No. 71 bursting.	
		,, 20	11.30 a.m. St. Enoch to Girvan, 10 minutes at Shields Road by hose-pipe on tender of engine No. 158 bursting.	
		,, 20	8.15 a.m. Stranraer to Dumfries, 2 minutes between Glenluce and Kirkcowan by hose-pipe on C.R. composite No. 62 bursting.	
		,, 20	2.35 p.m. Dumfries to Stranraer, 6 minutes at Castle Douglas by hose-pipe on M.R. saloon No. 120 bursting.	
		Oct. 1	12.15 p.m. Greenock to St. Enoch, 2 minutes on journey owing to a defective hose-pipe on brake-van No. 63.	
		,,	6.15 p.m. St. Enoch to Girvan, 6 minutes at Dalry owing to joint of brake-pipe giving way on engine No. 28.	
		Dec. 6	8.35 a.m. St. Enoch to Ardrossan, 8 minutes at Limrood owing to hose-pipe on No. 3 first-class bursting.	

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Glasgow and South-Western—*cont.*	Vacuum Automatic Brake. (64 engines fitted. *See* Return No. 1.)		1 and 2 Nil.	1,053,237 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 5	6.5 a.m. Kilmarnock to Largs, 4 minutes on journey by insufficient vacuum, owing to defect in clack valve of engine No. 199.	
		„ 11	9.25 p.m. St. Enoch to Pollokshaws, 2 minutes at Clyde Junction by insufficient vacuum, caused by ball-valve of engine No. 140 being defective.	
		„ 23	2.15 p.m. Bellahouston to Springburn, 4 minutes at Gorbals Junction by brake binding, owing to pipe on rear of train not being properly fixed on dummy plug.	
		August 24	5.30 p.m. St. Enoch to Carlisle, 3 minutes on journey by insufficient vacuum, ejector defective.	
		„ 25	1.23 p.m. Carlisle to St. Enoch, 20 minutes on journey by insufficient vacuum, ejector defective.	
		Sept. 8	8.45 p.m. Kilmarnock to St. Enoch, 11 minutes between Barrhead and Pollokshaws, by brake binding on No. 8 passenger van. Rubber rolling ring over head of piston.	
		„ 17	10.50 a.m. Carlisle to St. Enoch, 10 minutes at Carronbridge, brake binding on No. 499 third. Brake taken up too tight.	
		Oct. 25	8.50 p.m. Stranraer Harbour to Carlisle, 7 minutes at New Galloway by brake not working. Drip valve frozen.	
		Nov. 1	11.30 a.m. St. Enoch to Ayr, 10 minutes between St. Enoch and Shields Road by brake binding on brake-van No. 13. Brake taken up too tight.	
		„ 15	9.0 p.m. Kirkcudbright to Dumfries, 18 minutes between Kirkcudbright and Castle Douglas by brake binding on No. 8 P.B. van. Brake travelling too far.	
		„ 16	3.30 p.m. St. Enoch to Kilmarnock, 3 minutes at Dalry owing to brake hanger pin coming out of gearing of guard's brake-van.	
		„ 17	5.30 p.m. St. Enoch to Carlisle, 13 minutes between Dumfries and Carlisle by brake binding. Vacuum hose-pipe not properly fixed on dummy plug.	
		„ 30	5.40 p.m. Kirkcudbright to Dumfries, 2 minutes at Southwick owing to hose-pipe of No. 100 first-class giving way.	
		Dec. 2	8.30 p.m. Greenock to St. Enoch, 15 minutes from Kilmalcolm to Paisley owing to joint of brake-pipe giving way on engine No. 125.	
		„ 2	4.50 p.m. Ardrossan to Newmilns, 3 minutes on journey by brake failing to work. Drip valve frozen.	
		„ 20	4.10 p.m. St. Enoch to Greenock, 5 minutes at St. Enoch by guard's valve in N.B. brake composite No. 271 standing open.	
		„ 24	4.45 a.m. Carlisle to St. Enoch, 3 minutes between Kilmarnock and St. Enoch by brake binding on No. 19 composite. No cause given.	
		„ 24	10.40 p.m. St. Enoch to Renfrew, 4 minutes on journey by brake not working. Drip valve frozen.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Glasgow and South-Western—*cont.*	Vacuum Automatic Brake—*cont.*	Dec. 27	7.31 p.m. St. Enoch to Barrhead, 5 minutes on journey by brake not working. Hose-bag between engine and tender parted. Engine No. 3.	
		,, 27	10.50 a.m. Carlisle to St. Enoch, 5 minutes at Gretna Junction caused by small hole in one of the intermediate vacuum pipes.	
		,, 27	8.50 a.m. St. Enoch to Carlisle, 27 minutes at Dumfries by hose couplings on dead meat-vans Nos. 10839 and 10977 being frozen, and when coupling getting broken.	
		,, 29	6.45 a.m. Ardrossan to Newmilns, 2 minutes on journey by brake binding on L. & N.W carriage No. 1026. Release handle standing in wrong position.	
		,, 31	4.45 a.m. Carlisle to St. Enoch, 5 minutes at Thornhill by brake not working. Drip valve frozen.	
Great North of Scotland	Westinghouse Automatic Brake. (67 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	406,137 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Aug. 5	12.55 p.m. up main line train stopped between Wardhouse and Insch owing to hose-pipe on third-class carriage No. 1 bursting. 4 minutes detention to train.	
		,, 15	12.10 p.m. up McDuff train stopped immediately after starting from McDuff owing to hose-pipe on Great Northern carriage No. 1,961 bursting. 1 minute detention.	
		,, 24	7.15 p.m. up passenger train detained 3 minutes at Crathes owing to hose-pipe on third-class carriage No. 76 bursting while train was standing at platform.	
		Sept. 24	11.40 a.m. train to Elgin detained 3 minutes near Longmorn owing to pipe on C. R. meat van No. 66,663 bursting.	
		Oct. 12	1.0 p.m. up Peterhead train stopped between Arnage and Ellon owing to hose-pipe on third-class carriage No. 133 bursting. 2 minutes detention.	
Highland - -	- - -	No failures reported.	—	Automatic Vacuum Brake. 467,224½ miles.
		No failures reported.	—	Newall's Continuous Hand Brake. 78,570 miles.
North British - -	Westinghouse Automatic Air Brake. (252 engines fitted. *See* Return No. 1.)		1. Nil.	3,771,997 miles.
			2. *Failure or partial failure to act under ordinary circumstances to stop a train when required.*	
		Dec. 31	Special passenger train, Hyndland to Airdrie, overshot platform at Partick owing to break failing to act properly in consequence of cocks between second and third carriages from engine being shut.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
North British—*cont.*	Westinghouse Automatic Air Brake—*cont.*		3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 1	Passenger train, Carlisle to Edinburgh, detained 6 minutes at Newcastleton by hose-pipe bursting on Midland Railway van No. 256. Failure of material.	
		,, 5	Passenger train, Carlisle to Edinburgh, detained 10 minutes at Kingsmuir siding by hose-pipe bursting on Midland Railway fruit van No. 71. Failure of material.	
		,, 12	Passenger train, Edinburgh to Aberdeen, detained 6 minutes at Laurencekirk by branch pipe breaking on engine No. 642. Failure of material.	
		,, 13	Passenger train, Berwick to Edinburgh, detained 5 minutes at Longniddry by main air pipe to reservoir breaking on engine No. 474. Failure of material.	
		,, 18	Passenger train, Edinburgh to Carlisle, detained 3 minutes between Heriot and Fountainhall by air pipe failing on engine No. 634. Failure of material.	
		,, 19	Passenger train, Carlisle to Edinburgh, detained 10 minutes at Edinburgh by hose-pipe bursting on Midland Railway Pullman car No. 20. Failure of material.	
		,, 19	Passenger train, Airdrie to Hyndland, detained 6 minutes at Shettleston by pump failing on engine No. 590. Failure of machinery.	
		,, 20	Passenger train, Bridgeton Cross to Balloch, detained 3 minutes at Partick by hose-pipe bursting on first-class carriage No. 340. Failure of material.	
		,, 23	Passenger train, Bridgeton Cross to Helensburgh, detained 7 minutes at Dalreoch by hose-pipe bursting on third-class carriage No. 681. Failure of material.	
		,, 29	Passenger train, Hawick to Newcastle, detained 6 minutes between Hawick and Stobs by hose-pipe bursting on Midland Railway horse-box No. 20. Failure of material.	
		,, 29	Passenger train, Perth to Edinburgh, detained 35 minutes on journey by hose-pipe bursting on Midland Railway van No. 499. Failure of material.	
		Aug. 3	Passenger train, Carlisle to Edinburgh, detained 6 minutes at Riddings by hose-pipe bursting on Midland Railway van No. 144. Failure of material.	
		,, 5	Passenger train, Aberdeen to Edinburgh, detained 10 minutes between Kingskettle and Falkland Road by pump failing on engine No. 598. Failure of machinery.	
		,, 6	Passenger train, Edinburgh to Hawick, detained 3 minutes at Edinburgh by hose-pipe bursting on Midland Railway saloon carriage No. 157. Failure of material.	
		,, 9	Passenger train, Glasgow to Aberfoyle, detained 12 minutes on journey by pump failing on engine No. 225. Failure of machinery.	
		,, 10	Passenger train, Dundee to Glasgow, detained 4 minutes at Charlestown Junction by air pipe breaking on engine No. 428. Failure of material.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
North British—*cont.*	Westinghouse Automatic Air Brake—*cont.*	Aug. 11	Passenger train, Edinburgh to Carlisle, detained 6 minutes between Heriot and Fountainhall by hose-pipe bursting on Midland Scotch Joint Stock composite carriage No. 26. Failure of material.	
		,, 12	Passenger train, Carlisle to Edinburgh, detained 8 minutes at Newcastleton by hose-pipe bursting on Midland Railway third-class carriage No. 281. Failure of material.	
		,, 13	Passenger train, Edinburgh to Dunfermline, detained 5 minutes at Edinburgh by hose-pipe bursting on third-class carriage No. 809. Failure of material.	
		,, 14	Passenger train, Edinburgh to Perth, detained 3 minutes between Halbeath and Crossgates by air pipe breaking on engine No. 427. Failure of material.	
		,, 18	Passenger train, Edinburgh to Musselburgh, detained 4 minutes between Abbeyhill and Piershill by hose-pipe blowing off between engine and tender No. 170. Failure of workmanship.	
		,, 20	Passenger train, Berwick to Edinburgh, detained 5 minutes between Longniddry and Prestonpans by air pipe breaking on engine No. 595. Failure of material.	
		,, 27	Passenger train, Hamilton to Hyndland, detained 4 minutes on journey by hose-pipe bursting on engine No. 157. Failure of material.	
		,, 29	Passenger train, Glasgow to Edinburgh, detained 13 minutes on journey owing to main-valve spindle failing on engine No. 217. Failure of machinery.	
		Sept. 3	Passenger train, Carlisle to Edinburgh, detained 6 minutes at Kershopefoot by hose-pipe bursting on Midland Railway van No. 84. Failure of material.	
		,, 6	Passenger train, Edinburgh to Aberdeen, detained 7 minutes between Cupar and Dairsie by hose-pipe bursting on Midland Railway van No. 430. Failure of material.	
		,, 17	Passenger train, Carlisle to Edinburgh, detained 4 minutes at Hawick by hose-pipe bursting on Midland Railway horse-box No. 48. Failure of material.	
		,, 17	Passenger train, Perth to Edinburgh, detained 5 minutes at Bridge of Earn by hose-pipe bursting on Midland Railway milk van No. 391. Failure of material.	
		,, 19	Passenger train, Dundee to Edinburgh, detained 15 minutes on journey by pump failing on engine No. 599. Failure of machinery.	
		,, 19	Passenger train, Carlisle to Edinburgh, detained 5 minutes at St. Boswell's by pump failing on engine No. 639. Failure of machinery.	
		,, 26	Passenger train, Carlisle to Edinburgh, detained 8 minutes at Longtown by hose-pipe bursting on Midland Scotch Joint Stock composite carriage No. 28. Failure of material.	
		,, 28	Passenger train, Edinburgh to Carlisle, detained 4 minutes at Portobello West by hose-pipe bursting on Midland Scotch Joint Stock composite carriage No. 47. Failure of material.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
North British—*cont.*	Westinghouse Automatic Brake—*cont.*	Oct. 5	Passenger train, Kilbowie to Bellgrove, detained 8 minutes on journey by pump failing on engine No. 89. Failure of machinery.	
		,, 8	Passenger train, Bridgeton Cross to Balloch, detained 7 minutes on journey by pump failing on engine No. 329. Failure of machinery.	
		,, 11	Passenger train, Hamilton to Hyndland, detained 3 minutes at Partick by copper discharge pipe breaking on engine No. 590. Failure of material.	
		,, 17	Passenger train, Aberdeen to Edinburgh, detained 5 minutes between Markinch and Thornton by pump failing on engine No. 36. Failure of machinery.	
		,, 20	Passenger train. Carlisle to Edinburgh, detained 8 minutes at Hawick owing to triple valve leaking on Midland Scotch Joint Stock composite carriage No. 53. Failure of material.	
		,, 23	Passenger train, Edinburgh to Glasgow, detained 3 minutes at Bishopbriggs by governor pipe breaking on engine No. 578. Failure of material.	
		,, 27	Passenger train, Edinburgh to Carlisle, detained 2 minutes between Newcastleton and Kershopefoot by hose-pipe bursting on Midland Scotch Joint Stoch composite carriage No. 55. Failure of material.	
		,, 28	Passenger train, Edinburgh to Carlisle, detained 2 minutes at Galashiels by hose-pipe bursting on Midland Scotch Joint Stock composite carriage No. 22. Failure of material.	
		,, 29	Passenger train, Bridgeton Cross to Kilsyth, detained 7 minutes at Kelvin Valley Junction by pipe coupling failing between engine and tender No. 553. Failure of material.	
		,, 31	Passenger train, Hyndland to Hamilton, detained 4 minutes at Bothwell by copper air pipe breaking on engine No. 544. Failure of material.	
		Nov. 5	Passenger train, Edinburgh to Carlisle, detained 5 minutes at Riccarton by hose-pipe bursting on Midland Railway van No. 497. Failure of material.	
		,, 10	Passenger train, Edinburgh to Glasgow, detained 5 minutes between Bonnybridge and Greenhill by air pipe breaking on engine No. 218. Failure of material.	
		,, 12	Passenger train, Helensburgh to Bridgeton Cross detained 3 minutes at Charing Cross by pump failing on engine No. 496. Failure of machinery.	
		,, 14	Passenger train, Edinburgh to Carlisle, detained 4 minutes at Eskbank releasing brake on Midland Scotch Joint Stock composite carriage No. 21. Cause not ascertained.	
		,, 21	Passenger train, Carlisle to Edinburgh, detained 6 minutes between Whitrope Tunnel and Shankend by hose-pipe bursting on Midland Scotch Joint Stock composite carriage No. 34. Failure of material.	
		,, 22	Passenger train, Carlisle to Edinburgh, detained 10 minutes at Carlisle by hose-pipe bursting on Midland Railway Pullman car No. 33. Failure of material.	

1. Name of Railway Company.	2. Name or Description of brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
North British—*cont.*	The Westinghouse Automatic Brake.—*cont.*	Nov. 22	Passenger train, Edinburgh to Carlisle, detained 3 minutes at Millerhill by hose-pipe bursting on fish truck No. 48,519. Failure of material.	
		,, 23	Passenger train, Edinburgh to Aberdeen, detained 8 minutes on journey by pump failing on engine No. 638. Failure of machinery.	
		,, 23	Passenger train, Perth to Glasgow, detained 7 minutes at Mawcarse by pump failing on engine No. 574. Failure of machinery.	
		,, 28	Passenger train, Milngavie to Bridgeton Cross, detained 5 minutes between Yorkhill and Bridgeton Cross by pump failing on engine No. 93. Failure of machinery.	
		,, 29	Passenger train, Hyndland to Hamilton, detained 9 minutes at Parkhead Junction by pump failing on engine No. 314. Failure of machinery.	
		Dec. 7	Passenger train, Edinburgh to Berwick, detained 4 minutes at Edinburgh by hose-pipe bursting on North-Eastern horse-box No. 3. Failure of material.	
		,, 14	Passenger train, Carlisle to Edinburgh, detained 5 minutes between Ravenswood Junction and Melrose by hose-pipe bursting on Midland Scotch Joint Stock bogie carriage No. 26. Failure of material.	
		,, 15	Passenger train, Edigburgh to Glasgow, detained 7 minutes on journey by pump failing on engine No. 349. Failure of machinery.	
		,, 17	Passenger train, Edinburgh to Aberdeen, detained 8 minutes on journey by pump failing on engine No. 638. Failure of machinery.	
		,, 22	Passenger train, Perth to Edinburgh, detained 5 minutes at Perth by hose-pipe bursting on Midland Scotch Joint Stock van No. 15. Failure of material.	
		,, 23	Passenger train, Edinburgh to Aberdeen, detained 18 minutes at Inverkeithing by governor air pipe breaking on engine No. 487. Failure of material.	
		,, 25	Passenger train, Glasgow to Edinburgh, detained 4 minutes between Philpstoun and Winchburgh by pipe breaking between main pipe and small reservoir on engine No. 217. Failure of material.	
		,, 27	Passenger train, Hyndland to Hamilton, detained 8 minutes at Parkhead by pump failing on engine No. 314. Failure of machinery.	
		,, 31	Passenger train, Edinburgh to Perth, detained 41 minutes at Haymarket by pump failing on engine No. 493. Failure of machinery.	
		No failures reported.	—	Vacuum Automatic Brake 1,740 miles.
Portpatrick and Wigtownshire.	- - -	No failures reported.	—	Vacuum Automatic. 5,076 miles.

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
IRELAND.				
Belfast and County Down.	- - -	No failures reported.	—	Vacuum Automatic Brake. 196,558⅛ miles.
Belfast and Northern Counties.	- - -	No failure nor instance of delay reported.	—	Vacuum Automatic Brake. 448,184 miles.
Castlederg and Victoria Bridge Tramway Company.	- - -	No failures nor instance of delay reported.	—	Westinghouse Automatic Brake. 10,848 miles.
Cavan, Leitrim, and Roscommon Light Railway and Tramway Company, Limited.	- - -	No failures reported.	—	Automatic Vacuum Brake. 52,193 miles.
Clogher Valley	- - -	No failures reported.	—	Automatic Vacuum Brake. 42,652 miles.
Cork and Muskerry Light.	- - -	No failures reported.	—	Automatic Vacuum Brake. 40,622 miles.
Cork, Bandon, and South Coast.	- - -	No failures nor instance of delay reported.	—	Automatic Vacuum Brake. 43,986½ miles.
Dublin, Wicklow, and Wexford.	- -	No failures reported.	—	Simple Vacuum Brake. 424,095 miles.
Dundalk, Newry, and Greenore.	- - -	No failures reported.	—	Automatic Vacuum Brake. 15,737¼ miles.
Great Northern (Ireland).	- - -	No failures reported.	—	Automatic Vacuum Brake. 1,000,516 miles. Simple vacuum. 39,755 miles.
Great Southern and Western Railway, Ireland.	Automatic Vacuum Brake. (107 engines fitted. *See* Return No. 1.)		1 and 2 Nil.	Simple Vacuum 13,000.* Automatic Vacuum 1,075,031.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		July 27	The 7.40 a.m. ex. Dublin was delayed two minutes on journey owing to sleeve of sack under No. 61 parcel van being loose.	
		Dec. 2	The 6.0 a.m. ex. Dublin was delayed two minutes on journey owing to casting of sack under tender No. 58 breaking.	

* The 13,000 miles were run in mixed trains or with empty carriage trains prior to 25th November 1892.

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Midland Great Western Railway of Ireland.	Automatic Vacuum Brake. (57 engines fitted. *See* Return No.1.)		1 and 2 Nil.	659,724 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Aug. 10	4.10 up train, brake stuck for want of oil. Delay 18 minutes.	
		Oct. 5	Up limited mail from Sligo, six minutes delay. Pipe broke.	
		Dec. 17	7.30 p.m. down, 25 minutes delay. Piston stuck. Fault of servants.	
		„ 27	5.45 a.m. up, worked hand-brakes Carrick to Mullingar. Valve put in wrong.	
		„ 28	Fish van 5 or 6 minutes delay. Neglect.	
Sligo, Leitrim, and Northern Counties.	- - -	No failures reported.	——	Smith's Vacuum Brake. 15,650 miles.
Tralee and Dingle -	- - -	No failures reported.	——	Automatic Vacuum Brake. 25,684 miles.
Waterford and Limerick	- - -	No failures reported.	——	Automatic Vacuum Brake. 146,891¾ miles.
West Carbery -	- - -	No failures reported.	——	Automatic Vacuum Brake. 11,988 miles.
West Clare - -	- - -	No failures reported.	——	Automatic Vacuum Brake. 44,332 miles.

No. 3.

RETURN for the Six Months ending on the 31st day of December 1892, of the number of miles run by Passenger Trains not fitted with CONTINUOUS BRAKES on Railways.

Name of Railway Company.	Name of Railway worked by Company on which Passenger Train ran without Continuous Brake.	Number of Miles run by Passenger Trains without Continuous Brakes.
ENGLAND AND WALES.		
Barry	Barry	—
Bishop's Castle	Bishop's Castle	12,653
Brecon and Merthyr Tydfil Junction	Nil.	—
Cambrian	Cambrian and Mid Wales Railways	Passenger trains 183,780 Mixed trains 83,847 Total 267,627
Cheshire Lines Committee	Cheshire Lines	55
Colne Valley and Halstead	Colne Valley and Halstead	—
Corris	Corris	4,072
East and West Junction	East and West Junction	12,307½
Eastern and Midlands	Branch Line Melton to Yarmouth	66,290½
Festiniog	Festiniog	27,923
Furness	Whitehaven, Cleator, and Egremont Cleator and Workington Junction	—
Garstang and Knot End	Garstang and Knot End	9,368
Golden Valley	Golden Valley	11,849
Great Eastern	Great Eastern, Great Northern and Great Eastern Joint, Midland and Great Eastern, Mellis and Eye.	15,320
Great Northern	Great Northern	1,871*
Great Western	Main and Branch lines and lines worked by the Great Western Railway Company.	80,700
Hull, Barnsley, and West Riding Junction Railway and Dock.	Hull, Barnsley, and West Riding Junction	1,865
Isle of Wight	Isle of Wight Railway Brading Harbour Railway Joint South-Western and Brighton Companies' Ryde Pier Railway.	20,952 — 2,059 Total 23,011

* These are principally miles run between Hornsey, &c. and Mint Street with fish trains. The total also includes the mileage of other fish trains, also horse, carriage truck, and empty carriage trains.

Name of Railway Company.	Name of Railway worked by Company on which Passenger Train ran without Continuous Brake.	Number of Miles run by Passenger Trains without Continuous Brakes.
Isle of Wight Central	Isle of Wight Central and Freshwater, Yarmouth, and Newport.	62,934
Lancashire and Yorkshire	Nil.	—
Liskeard and Caradon	Nil.	—
London and North-Western	London and North-Western Railway, and lines over which that company's trains run.	11,818
London and South-Western	London and South-Western Railway and Branches.	10,243¾*
London, Brighton, and South Coast	London, Brighton, and South Coast	676
London, Chatham, and Dover	London, Chatham, and Dover, and Dover and Deal.	335
Londonderry (Seaham and Sunderland)	Nil.	—
London, Tilbury, and Southend	Nil.	—
Manchester and Milford	Manchester and Milford	25,746 (Including mixed trains.)
Manchester, Sheffield, and Lincolnshire.	Manchester, Sheffield, and Lincolnshire Sheffield and Midland Committee Oldham, Ashton, and Guide Bridge Committee. Macclesfield Committee	553
Manchester, South Junction, and Altrincham.	Nil.	—
Maryport and Carlisle	Nil.	—
Mawddwy	Mawddwy	9,288
Mersey	Nil.	—
Metropolitan	Nil.	—
Metropolitan District	Nil.	—
Midland	Nil.	—
Midland and South-Western Junction	Midland and South-Western Junction	—
Neath and Brecon	Neath Branch only	809
North-Eastern	North-Eastern	237
North London	Nil.	—
North Staffordshire	Nil.	—
North Wales Narrow Gauge	North Wales Narrow Gauge	16,027†

* Due to the continuity of the brake being destroyed by goods vehicles put in passenger trains.

† The Westinghouse continuous automatic brake is being fitted to the Company's stock, but is not yet in general use. The mileage given is as if no trains were thus fitted.

Name of Railway Company.	Name of Railway worked by Company on which Passenger Train ran without Continuous Brake.	Number of Miles run by Passenger Trains without Continuous Brakes.
Pembroke and Tenby	Pembroke and Tenby	47,901¾
Pontypridd, Caerphilly, and Newport	Nil.	—
Ravenglass and Eskdale	Ravenglass and Eskdale	Passenger trains 7,858 Mixed trains 2,401 Total 10,259
Rhondda and Swansea Bay	Nil.	—
Rhymney	Nil.	—
Severn and Wye and Severn Bridge	Nil.	—
Somerset Joint Committee	Somerset and Dorset Joint line	—
South-Eastern	South-Eastern and its Branches	39,697
Southwold	Southwold	16,737
Taff Vale	Nil.	—
Talyllyn	Talyllyn	12,040
West Lancashire	West Lancashire and Liverpool, Southport, and Preston Junction	80,551
West Somerset Mineral	West Somerset Mineral	3,744
Wirral	Nil.	—
Wrexham, Mold, and Connah's Quay	Wrexham, Mold, and Connah's Quay	—
SCOTLAND.		
Caledonian	Caledonian	43,004
	Callander and Oban	83
	Kilsyth and Bonnybridge	160
	Portpatrick and Wigtownshire	3,056
		Total 46,303
Glasgow and South-Western	Glasgow and South-Western, Glasgow, Barrhead and Kilmarnock, and Portpatrick and Wigtownshire Railways.	21,251

Name of Railway Company.	Name of Railway worked by Company on which Passenger Train ran without Continuous Brake.	Number of Miles run by Passenger Trains without Continuous Brakes.
Great North of Scotland	Great North of Scotland	Passenger trains 133,581 Mixed trains 134,481 Total 268,062
Highland	Highland	Mixed trains 212,744
North British	North British Forth and Clyde Junction	338,723 5,170 Total 343,893
Portpatrick and Wigtownshire Joint Committee.		20,504
IRELAND.		
Ballycastle	Ballycastle	21,426
Belfast and County Down	Belfast and County Down	51,078¼
Belfast and Northern Counties	Belfast and Northern Counties, Derry Central, Draperstown, Limavady and Dungiven.	25,649
Bessbrook and Newry	Bessbrook and Newry Tramway	11,424
Castlederg and Victoria Bridge	Nil.	—
Cavan, Leitrim, and Roscommon Light Railway and Tramway.	Nil.	—
Clogher Valley Tramway	Nil.	—
Cork and Macroom Direct	Cork and Macroom Direct	36,115
Cork and Muskerry Light	Nil.	—
Cork, Bandon, and South Coast	Cork, Bandon, and South Coast Ilen Valley Bantry Extension Clonakilty Extension West Cork Kinsale	22,319¼ 7,368½ 7,706¼ 7,894 8,292¾ 9,697½ Total 63,278¼
Cork, Blackrock, and Passage	Cork, Blackrock, and Passage	36,064
Donegal	Donegal	Section I. 14,729 „ II. 25,524 Total 40,253
Dublin, Wicklow, and Wexford	Dublin, Wicklow, and Wexford	37,599
Dundalk, Newry, and Greenore	Dundalk, Newry, and Greenore	Passenger trains 2,601¼ Mixed trains 21,445¼ Total 24,046½
Great Northern (Ireland)	Nil.	—
Great Southern and Western	Nil.	—
Londonderry and Lough Swilly	Londonderry and Lough Swilly and Letterkenny.	48,427

Name of Railway Company.	Name of Railway worked by Company on which Passenger Train ran without Continuous Brake.	Number of Miles run by Passenger Trains without Continuous Brakes.
Midland Great Western - -	Nil.	—
Sligo, Leitrim, and Northern Counties	Sligo, Leitrim, and Northern Counties -	Mixed trains 35,415
Waterford and Central Ireland -	Waterford and Central Ireland, Kilkenny Junction and Central Ireland.	73,935
Waterford and Limerick - -	Limerick and Kerry - - - Athenry and Ennis - - - Athenry and Tuam - - - - Southern - - - - - Rathkeale and Newcastle Junction - - Tralee and Fenit - - - -	207,025¾
Waterford and Tramore - -	Waterford and Tramore - - -	21,885
Waterford, Dungarvan, and Lismore	Waterford, Dungarvan, and Lismore - -	28,022
West Carbery - - -	Nil.	—
West Clare - - - -	Nil.	—

APPENDIX.

London Brighton and South Coast Railway.

Statement of Cases in which Accidents have been Prevented by the use of the Westinghouse Continuous Automatic Air Brake during the six months ending the 31st December 1892.

Date.	Train.	Particulars.
1892. August 22	11.0 a.m. Brighton to Victoria.	The driver states that when nearing Purley he observed a woman crossing the line at the North end of the platform and fall, her foot having got entangled in the signal wires. He at once applied the brake, by which means the speed of the train was so reduced as to enable her to move clear.
October 27	2.15 p.m. Eastbourne to London Bridge.	When about a mile past Berwick, the driver observed a pack of hounds on the line and immediately applied the brake, thereby so reducing the speed of the train as to prevent any of them being run over.
Nov. 15	11.4 a.m. Eastbourne to Hastings.	When about a mile past Pevensey, the driver observed a pack of hounds on the line; he applied the brake, whereby he stopped the train before killing any of them.

London, Brighton, and South Coast Railway.

Statement showing the Number of Times the Westinghouse Continuous Automatic Air Brake has been used on this railway on two particular days during the six months ending 31st December 1892.

Tuesday, September 20th.

With passenger trains and empty carriages	15,752
With empty engines	9,548
Total	25,300
Number of booked stoppages	9,739

The weather was showery.

Wednesday, December 14th.

With passenger trains and empty carriages	15,405
With empty engines	9,922
Total	25,327
Number of booked stoppages	9,466

The weather was wet.

2.—Rules and Regulations relating to Continuous Brakes.

CAMBRIAN RAILWAY.

Circular No. 206.

Instructions for Working the Vacuum Brake.

1. Certain of the carriages and vans at present working between Whitchurch and Aberystwith, and to a limited extent on other parts of the line also, are fitted with a Non-automatic Vacuum Brake, *under the control of the engine-driver only*. These vans are also fitted with an automatic arrangement, held off by a small vacuum to be constantly maintained in the train pipe when the engine has been coupled up. Should this vacuum not be maintained, the valve in the van will drop, the bell ring, and the van brake be instantly applied. The carriage examiners will be responsible for winding up the bell when the train is marshalled, and the guard for seeing it kept wound up on the journey.

2. The brake will eventually be fitted to all the Company's stock, but until then, some of the carriages will be fitted with train pipes only, and when it is necessary to run such carriages in Vacuum Brake trains, they must as far as possible be placed *behind carriages fitted with the brake and before the rear van*.

3. The person whose duty it is to couple up the brake pipes previous to the starting of a train, must as soon as the connexions are complete inform the driver, who will then raise the vacuum, by the use of the ejector. Porters and others are cautioned that in passing between vehicles they must not step upon the brake pipes.

4. Before giving the signal for the train to start, the guard must satisfy himself that the valve in his van has been raised by the vacuum, that the bell has ceased to ring, the small catch dropped out of gear, and that the gauge shows not less than 15 inches of vacuum. Should the gauge not show that amount of vacuum, the guard must hold up steadily the white flag to the driver, waving it when the necessary vacuum is reached. At night the same signals are to be given with a white light.

5. It will be the duty of the guard before starting, and at places where engines are changed, to inform the driver the number of vehicles on the train fitted with the Vacuum Brake complete, as well as the number fitted with the pipe only.

6. The brakes throughout the train being under the control of the driver, the use of the hand brake in the vans is not required for ordinary stops for which the use of the Vacuum Brake is permitted (*see* paragraph 14), but guards must at all times be prepared to apply the hand brake immediately on its being called for by the driver's whistle.

7. If at any time during a journey the Automatic Brake in the van goes on, and the bell rings, the guard must at once endeavour to ascertain the cause, which may arise from the train breaking in two, failure of some part of the brake apparatus, or neglect on the part of the driver to maintain the small vacuum. If the guard is satisfied that the application of the brake has not arisen from the train breaking loose, and can perceive nothing wrong with the train which would require it to be stopped, he must put the Automatic Brake out of gear by pulling up the spindle of the valve, and hooking in the catch, to prevent the brake blocks rubbing the wheels of the van to the next stopping place, where the guard must call the driver's attention to the matter.

8. The guards of all trains fitted with the Vacuum Brake must insert on their reports the words "Continuous Brake Train,' and if only for part of the journey, between what points, with full particulars of any defects which may occur in the working of the brake during the journey, including its automatic action under the circumstances described in paragraph 7.

9. To enable a van to be moved when the engine is detached from the train, the Automatic Brake can be held off by pulling up the spindle of the valve, and hooking in the catch. The valve must be so hooked up on coming to a stand at the end of a journey. The brake pipes of carriages standing in sidings must not be left hanging loose, but fixed to the plug.

10. The *Vacuum* Brake stock of the following Railway Companies may be placed with Cambrian Brake stock in making up Continuous Brake trains, subject to its being dealt with as provided in the second part of par. 12, viz.:—

London and North-Western.
North Stafford.
Great Northern.
Manchester, Sheffield, and Lincolnshire.
Manchester South Junction and Altrincham.
Cheshire Lines.
Caledonian.

The vehicles of any other company fitted with a Vacuum Brake must when possible be placed in the rear of Cambrian Continuous Brake trains, *and the pipes not coupled up*, but if it is absolutely necessary to marshal them in such trains, they are to be placed as far back as possible, the pipes left uncoupled, and the Vacuum Brake used only on the vehicles between them and the engine. If, however, such foreign vehicles are fitted with an apparatus for cutting off the brake cylinder from the train pipe, and the brake has been put out of gear, the pipes may be coupled up. Horse boxes and other vehicles *fitted with train pipes only* may be marshalled *in* the trains and the pipes coupled.

11. When any considerable number of vehicles not fitted with the Vacuum Brake, or having pipes only, are attached to a train fitted with such brake, the guard in the rear van must immediately, upon the Vacuum Brake being applied by the driver, apply his hand brake, and keep it tightly on, either until the train has come to a stand, or the driver has taken off the Vacuum Brake, and is again going forward. This action is necessary to prevent the rebound of the carriages which may occur with trains composed of vehicles only partially fitted with Continuous Brakes.

12. When a Cambrian carriage fitted with the brake is sent forward to the Great Western or Midland lines, the connexion between the train pipe and the brake cylinder must be cut off by means of the handle painted red, placed at each side of the carriage, close under the frame. This handle forms part of a rod extending across the carriage, and provided at each end with three notches. When it is desired to disconnect the brake, either for the purpose of sending the carriage to the lines mentioned, or if, when running, the brake is found defective, the handle must be pulled or pushed into one of the end notches. When right for working, the handle will stand in the centre notch, level with the side of the carriage frame, and examiners must see that the handle is placed in this position when carriages are returned from a foreign line, or after having undergone repairs.

Some of the London and North-Western Company's carriages are now fitted with the *Automatic* Vacuum Brake, and when Cambrian carriages are returned from that Company's line, special care must be taken that the handle is put back to the centre notch. For the same reason the connecting handle on London and North-Western carriages fitted with the Automatic arrangement must be moved to the position marked "Simple" before the carriages are placed in Cambrian Vacuum Brake trains.

13. Enginemen must be careful not to put on the Vacuum Brake too suddenly, and drivers of all down trains must test the brake before commencing the descent of Talerddig incline. Special instructions to enginemen will be issued by the Locomotive Superintendent.

14. The Vacuum Brake is *not to be used except on emergency* at—

(*a*) Terminal stations.
(*b*) Junctions between single and double line.
(*c*) Stations on single line where other trains are to be passed or crossed.
(*d*) *Nor at any station*, unless the driver is satisfied at the time of shutting off steam that there is an obstruction on the line which he could not stop short of by the use of the hand brakes.

Station-masters are to report any breach of this regulation which may come under their notice.

In all the foregoing cases steam must be shut off, and the speed reduced in the same manner as if the train were fitted with the ordinary hand brakes only.

Please acknowledge receipt on form annexed.

J. Conacher,
Secretary.

Oswestry, 15th June 1888.

EASTERN AND MIDLANDS RAILWAY.

Notice to Enginemen and Firemen.

Engines Nos. 32 to 35 inclusive have been fitted, in addition to the Westinghouse brake for engine, with a combination ejector for working simple or automatic vacuum brake on the foreign excursion trains.

The following regulations must be observed :—

Testing the Brake before starting.

1. Before starting with any train the engineman must ascertain whether the train is fitted with the simple or automatic vacuum or Westinghouse; he must also satisfy himself that the brake-pipe between his engine and the train has been properly coupled up, and he must then test the brake to see that it is in good working order.

Simple Vacuum.

2. To apply the brake the handle on the combination ejector must be pushed *from* the driver, and to release the brake pulled to him.

Automatic Vacuum.

3. To apply the brake the handle on the combination ejector must be pulled *towards* the driver, and to release the brake pushed from him.

4. Before starting the driver must see that the gauge indicates at least 18 inches of vacuum, and that it be maintained during the journey, and 70 lbs. of air pressure indicated by the Westinghouse gauge.

5. At any station where there is a likelihood of vehicles being put on or taken off, the vacuum in the continuous pipe must be destroyed by opening the application valve on the engine so that there may be no delay in coupling or uncoupling.

Application of the Brake when running.

6. Referring to No. 293 of the Company's rules respecting the speed of trains when entering terminal stations. Enginemen working trains fitted with continuous brakes are hereby informed that they must not run at a high rate of speed close up to the stations at which they have to stop and suddenly apply the brakes at full power; but in all cases of ordinary stoppages they are to reduce the speed of their trains when approaching stations so as to enable them to stop at the platforms with the application of a moderate amount of brake power only.

Enginemen must run at a moderate speed through curves, crossings, facing-points, junctions, and must reduce speed before arriving at such places so that the brakes may not be hard on when actually running on them.

Testing the Brake.

7. In addition to testing the brake before starting, as in paragraph 1, enginemen must satisfy themselves before passing the distant-signal of any station at which the train has to stop or reduce speed, that the brake is in working order, and on passing the distant-signal of any terminal station the brake must be applied and speed of train reduced by it. The train must not be allowed to travel between the distant-signal of any terminal station at a higher rate of speed than will admit of its being stopped at the entrance of the station by the application of the ordinary hand brakes only.

Unless the brake is working properly when tested, the engineman must whistle for the guards' hand brakes, stop the train and inform the guards the continuous brake is out of order, and the hand brakes must be relied on for working the train.

8. Any case of the continuous brake connexion being cut off by a "dummy" being placed next the engine must be reported on the driver's return.

9. The vacuum brake will be worked under the rules of the Vacuum Brake Company, copies of which will be issued to drivers.

The attention of all enginemen is specially directed to these instructions, which must be strictly adhered to.

William Marriott,
Engineer and Loco. Supt.

Melton Constable,
May, 1888.

THE FURNESS RAILWAYS.

Instructions to Engine Drivers, Guards, and Others, as to the use of the Automatic Vacuum Brake.

1. The brake can be applied throughout the train by the driver from the engine, or by the guard from his van, but in order that this may be done it is imperative that the flexible connexions between each carriage and between the engine and the train shall be properly coupled together, and the flexible pipe at the rear end be put carefully on the plug.

2. When the engine is attached to the train, it is the duty of the fireman to connect the hose coupling on the engine to that on the train; and when the engine is disconnected from the train it is the fireman's duty to place the hose coupling on to the plug provided for that purpose. The driver must see that the fireman attends to this.

3. The driver before starting must see that the gauge indicates at least 18 ins. of vacuum. This is done by admitting steam to the small ejector by means of a steam cock provided for that purpose. To apply the brake move the lever on the brake valve to "On." In ordinary running this lever must stand at "Off," or "Running position."

4. If from any cause the driver is unable to obtain at least 15 ins. of vacuum, he must inform the guard of the fact, and together they must work the train to destination with the ordinary hand brakes.

5. After the application of the automatic vacuum brake, and just before coming to a stand at stations or when stopped on the road, the driver must use his ejector so as to partially release the brake, and thus prevent any rebound of the carriages; this will also enable the driver to start his train immediately he receives the signal to do so.

6. Guards must never apply the automatic vacuum brake except in cases of absolute necessity, and whenever they do so a full report of the circumstances

must be made on their reports. They must at all times be ready to apply the hand brake should the driver whistle for its assistance.

7. When guards have occasion to apply the brake they must press down the lever on the valve placed in the guard's van. This admits air throughout the train pipe, and at once stops the train by the application of the brake blocks to the tyres of the wheels. This valve opens automatically when the brake is applied with full force by the driver, and ensures very quick action.

8. To release the brake for shunting purposes, the engine having left the train, first see that the hose coupling at one end of the train is off the plug, then pull the cord which is fixed under each carriage as indicated by a red arrow, then air will be admitted to the top side of the cylinder, and the brakes come off by gravity. The release cord must always be held by hand until the brakes come off and must never be fastened.

9. The guard, before giving the signal to start at the commencement of the journey, and at stations where the flexible pipes have been coupled or uncoupled, must inform the driver—1st, That all the vehicles throughout the train fitted with the brake have the flexible pipes properly coupled up, and the flexible pipe at the rear of the last vacuum vehicle is properly placed on the dummy plug; 2nd, that 18 ins. of vacuum is indicated by the gauge in rear van on the train; and the number of vehicles fitted with the vacuum brake, and in the event of their being any vehicles on the train not fitted with the vacuum brake, the guard must inform the driver of the fact, and the number of vehicles not fitted, so that the the driver may know what number of vehicles over which he has control, and what number are without the vacuum brake.

10. When carriages are to be slipped the flexible pipes must be fixed on the dummy plugs on the end of the carriage and the cord pulled to release the brake. The carriage after being slipped must be brought to a stand with the hand brake.

11. If from any cause the automatic vacuum brake is not used, or fails to act when required, or if there is any irregularity in its working, a remark to that effect must be made by the guard on his report, and by the driver on his report, which must be accompanied by a special report giving full particulars of the irregularity. Should the amount of vacuum be less than 15 ins. on the gauge, the guard must call the driver's attention to the fact and enter the same on his report, stating cause, &c. Guards must take care during the journey that nothing in the van is allowed to rest against or in any way interfere with the lever on the brake valve that is in the guard's van.

12. Vehicles fitted with pipes only, and which have no brake gear fitted to their own wheels, have the pipes on the ends painted red, and must be considered as vehicles without the brake.

13. To work with foreign stock, such as the London and North-Western, the handle painted red on the side of the carriage belonging to that Company must be pulled or put into one of the end notches, or into the position marked "Auto.," unless the brake is defective, when it should be put into the centre or "Cut off" position.

14. Vacuum pipe connections when not in use must be placed securely on the dummy plugs provided for that purpose.

15 To couple the hose pipes the porter must take one in each hand, lift them up sufficiently high to hook the bottom horns of the couplings together first, then by lowering them place the top horns of the couplings in the slots.

16. To uncouple the hose pipes, the porter must simply lift them straight up, when the horns at the top will come out of the slots, and the couplings will then separate. Porters when coupling or uncoupling must have their hands quite free from cotton waste or anything else that would be likely to be drawn into the pipes by the suction of the vacuum.

17. In the formation or marshalling of trains when the whole of the coaches are not fitted with the automatic vacuum brake, those that are so fitted must be placed together, and next to the engine.

18. Carriage washers must not allow any water to remain on the hose pipes or plugs when washing the vehicles, as any water left upon the pipes and plugs during frost the pipes and plugs would freeze, and cause delay and inconvenience in fixing the pipes on the plugs.

Instructions for Working the Automatic Vacuum Brake.

This brake can be applied throughout the train by the driver from his engine or by the guard from his van.

Drivers' Instructions.—Before starting see that your gauge indicates at least 18 ins. of vacuum. This is done by admitting steam to the small ejector by means of a steam cock placed for that purpose. To apply the brake, move the lever on the combination ejector to "On." In ordinary running the lever must stand at "Running position." To release the brake move the lever to position "Off. *When the vacuum is suddenly destroyed in the main pipe, the brake is full "On."* When separated from your train, see that the hose couplings are placed upon the plugs fixed for that purpose.

Guards' Instructions.—To apply the brake, press down the lever on the valve placed in the guard's van. This admits air throughout the train pipe, and is to be only used in cases of emergency. This valve opens automatically when the brake is applied with full force by the driver, and ensures rapid action. See that all the flexible hose-pipes between the carriages, and between the carriages and engine, are properly coupled together, and that the couplings on the end vehicles are placed upon the plugs. See by your gauge that a vacuum of 15 ins. is maintained. Report otherwise to the driver, and mark your report sheets accordingly, with cause, &c.

General Instructions.—To release the brakes for shunting purposes, the engine having left the train, first see that the hose coupling at one end of the train is taken off the plug, then pull the cord which is fixed under the body of each carriage, as shown by the arrows painted red. This admits air to the top side of the cylinder, and the brakes come off by gravity.

By Order

General Offices, Barrow,
December 13th, 1890.

GREAT NORTHERN RAILWAY.

Vacuum Brakes.

Instructions for working the Vacuum Brake either as a Simple or Automatic Brake when the Carriages, &c. are fitted with the Combination Brake or the Automatic Brake only.

The attention of station masters, foremen, guards, porters and others is drawn to the arrangement under which carriages and other vehicles fitted with the simple or automatic apparatus can be used, either for the application of the simple or automatic brake, the arrangement consisting of a short lever at each end or side of the carriage or other vehicle, having a quadrant with the letters "Auto." at one end, and "Simp." at the other, indicating automatic or simple.

When carriages or other vehicles are attached to an automatic train, the lever must be turned to "Auto.," and when to a simple brake train to "Simp." When the brake is out of order the lever should be

set straight up and down, cutting off the brake connections.

To release the brake from any carriage, &c., pull the cord, the position of which is indicated by a red star on each side of the vehicle. The brake can be applied throughout the whole of the vehicles fitted with the apparatus by the engineman from the engine, or by the guard from his van, but in order that this may be done it is imperative that the flexible connections between each vehicle and between the engine and the train shall be properly coupled together, and the flexible pipe at the rear end be put carefully on the plug.

Special Instructions to Guards.

Guards must see that the gauge in their vans indicates 18 inches of vacuum before starting, and they must at all times be ready to apply the hand brake should the driver call by whistle for its assistance, or when approaching a stopping station.

When carriages are to be slipped the pipes must be put upon the plug, and the cord pulled to release the brake. The carriage, after being slipped, must be brought to a stand with the hand brake.

Special Instructions to Engine Drivers.

Before starting the driver must see that the gauge indicates at least 18 inches of vacuum, and that it be maintained during the journey. The vacuum is created by admitting steam to the small ejector. To release the brake close the application valve, when the brake-blocks will fall from the wheels.

When the automatic vacuum brake is to be used for the ordinary stoppage of trains, it must be done by the engineman opening the application valve on the engine gradually, not suddenly or with full force, except in cases of emergency.

At any station where there is likelihood of vehicles being put on or taken off, the vacuum in the continuous pipe must be destroyed by opening the application valve on the engine so that there may be no delay in coupling or uncoupling.

General Instructions.

All passenger trains must be fitted with a continuous brake.

When a train, which ordinarily consists of vehicles fitted with a continuous brake, is not so fitted throughout, the front half, at least, must be fitted and worked with a continuous brake.

The working of these brakes by the engineman will not relieve guards from any responsibility. They must keep a good look-out, and be prepared to apply hand brakes should necessity arise.

Station-masters, inspectors, and foremen must select experienced men to couple together the pipes of vehicles fitted with any air brake, and must carefully examine the couplings before starting train. They must give special attention to the proper coupling of air brake pipes, and make such arrangements as will ensure these pipes being cared for, and not improperly used.

Guards *must see* that pipes of air brakes are properly coupled together *before starting*, and whenever any engine or vehicle is attached or detached; and they must, whenever the train stops at a station, examine the pipes and couplings.

In vehicles fitted with vacuum and also with Westinghouse brake pipes, the latter must, when such is practicable, be above the vacuum pipes.

The communication cord must be attached to lever of brake of engine. The cord must be given by platform porter to engineman or fireman, who must attach it to brake lever.

When vehicles fitted with continuous air brake are left in sidings or at stations, the brake pipes of each vehicle must be coupled together, and not left hanging loose. Porters and others are cautioned that in passing between vehicles *they must not step upon the brake pipes*, nor interfere with or injure the connections.

Guards must report specially and also enter on their journals full particulars of any defect, failure, or unsatisfactory working of the brake of their train, or any portion of the fittings, couplings, &c., whether vacuum, Westinghouse, hand, or other brake.

The head guard of a train provided with a continuous brake must, before starting train, and at places where engines are changed, inform the engine driver the number of vehicles there are on the train, and upon how many of them the brake can be applied; and when any vehicles are attached or detached on journey, the engine driver must be advised, and told whether the attaching or detaching of such vehicles will interfere with working of brake on whole or a portion of train, and, if the latter, to what extent.

The engine driver of a train provided with a continuous brake must, before starting, and at places where engines are changed, ascertain from the head guard the number of vehicles there are on the train, and upon how many of them the brake can be applied, and, when any vehicles are attached or detached on journey, whether the attaching or detaching of such vehicles will interfere with working of brake, and, if so, to what extent.

Terminal stations must be approached cautiously, and guards must apply their hand brakes, should there be any reason to suppose the engineman has not the train well in hand, or that there is the least risk of not being able to stop at entrance to station. Guards must have their hands on their hand brakes when passing the distant signal of a terminal station, and must so remain and be ready to apply brakes until train is stopped at station.

Enginemen must test the brake before starting, at each station where engine is changed, and again at each station where any vehicle is attached or detached. They must satisfy themselves, before passing the distant-signal of any station at which the train has to stop or reduce speed, that the brake is in good working order, and on passing the distant-signal of any terminal station the brake must be applied and speed of train reduced by it. The train must not be allowed to travel between the distant-signal and any terminal station at a higher rate of speed than will admit of its being stopped at entrance to station by the application of the ordinary hand brakes only. Enginemen must from time to time, and whenever they are likely to have to make use of the brake, test its working, and must not at any time run more than 20 miles without trying the brake. They must not pass the distant-signal of any important station, such as Hatfield, Hitchin, Peterboro', Retford, Doncaster, &c., nor go down any incline, without trying the brake, and must in each case satisfy themselves it is in good working order. Unless the brake is working properly when thus tried, the engineman must whistle for the guards' hand brakes, stop the train, and inform the guards the continuous brake is out of order, and the hand brakes must be relied upon for working the train. Special care must then be taken in approaching stations at which the train has to stop.

The brake must also be tested on—

All up trains when passing Holloway station (London),

All down trains when passing Meadow Lane junction (Nottingham),

All down trains when passing Hammerton Street junction (Bradford),

All down trains when passing the goods yard junction, Dewsbury,

All down trains when passing the junction with Midland Railway, Keighley,

All down trains when passing the down distant-signal of the Midland junction at Shipley.

A chain with hook is attached at each end of the several vehicles composing the coaching stock. This hook must be put round the rod of the screw coupling, immediately above the ball, to prevent the latter

touching the brake pipes. Station masters, guards, and others must report any case of the suspended weight of a screw coupling being found above side chain or brake pipe.

Guards must inform enginemen of the number of carriages on their train which are not fitted with brake apparatus, but with through pipes only.

Vacuum brake pipe connections, when not in use, must be securely placed on the studs provided for the purpose.

Circular No. 5887a is cancelled.

P. STIRLING,
Locomotive Engineer.
FRANCIS P. COCKSHOTT,
King's Cross, Superintendent of the Line.
31st December, 1887.

GREAT WESTERN RAILWAY.

DESCRIPTION OF AND INSTRUCTIONS FOR WORKING THE CONTINUOUS AUTOMATIC VACUUM BRAKE, TO COMMENCE 15TH MAY 1892.

Description.

1. The Automatic Vacuum Brake stops the train by the application of the brake-blocks to the tyres, in the same way as the ordinary screw brake; but the levers which apply the blocks instead of being worked by a screw are worked by a cylinder and piston, actuated by atmospheric pressure.

2. The following are the principal parts of the apparatus on the carriages, the reference letters showing the corresponding parts on the diagrams given below :—*

A, continuous pipe, connected by flexible pipes between the carriages.

B, hollow piston rod, connected by branch pipe to the continuous pipe.

C, piston.

D, cylinder, capable of moving freely up and down on the fixed piston, and connected at the bottom with the brake levers E.

The piston is packed with an india-rubber ring, so arranged that air can pass freely from the bottom of the cylinder to the top, but not from the top to the bottom. The piston-rod is also packed with an india-rubber gland.

3. *Brake off.* The air is exhausted from the pipes and cylinders, by the ejector on the engine when the train is at rest, or by the air-pump on the engine when the train is in motion. The gauges on the engine and in the guards' compartments indicate the power available for stopping the train, and should show not less than 20 inches nor more than 25 inches of vacuum *when the train is running*. The vacuum being equal on both sides of the piston, the cylinder falls by its own weight and holds the brakes off the wheels. (See Fig. 1.)

4. *Brake on.* The moment air is admitted into the continuous pipe, whether by the engineman or by the guard, or by the accidental severance of the couplings, it rushes through the continuous pipe down the hollow piston-rod into the *upper* part of the cylinder, and, pressing the india-rubber packing-ring against the sides of the cylinder, seals the vacuum on the under side of the piston, so that the pressure of air in the upper part of the cylinder, having nothing to balance it on the other side of the piston, thrusts up the cylinder and presses the brake blocks against the wheels. (See Fig. 2)

5. *Release of Brake.* When the brake has been applied it will remain on, unless released either by the exhaustion of the air from the upper side of the piston (see par. 3) or by the admission of air to the under side of the piston.

For diagram, *see* [C.—3873.]

6. *Release Valves.* The majority of vehicles are fitted with release valves for releasing the brake by hand, as shown at F on diagram. These valves can be opened by pulling the handle fixed on each side of the vehicles.

7. *Brake Setters.* In order to apply the brakes on each carriage in the train as nearly as possible at the same moment, it is necessary to admit the air to the continuous pipe in more than one place. For this purpose a valve or brake setter is provided in each guard's compartment, so constructed that any sudden increase of pressure in the pipe instantly causes the valve to open automatically and admit a supply of air, after which it closes again by its own weight. By lifting the handle attached to the brake setter the guard can on an emergency apply the brakes on the entire train.

Formation of Trains.

8. The brake can be applied to the vehicles fitted with the apparatus, by the engineman from the engine, or by the guard from his van, but in order that this may be done, it is imperative that the flexible connections between each carriage, and between the engine and the train, be properly coupled up.

9. In the formation of trains, vehicles fitted with the automatic vacuum brake, or with the connecting pipe only, must be placed all together, and next to the engine. The automatic vacuum brake must not be used for ordinary stoppages, unless two-thirds of the whole train is fitted with that apparatus, except in cases of emergency. When the automatic vacuum brake is not used, the train must be controlled for ordinary stoppages by the hand-brake on the engine and the guards' hand-brakes.

In order to calculate the number of vehicles in a train, so as to determine whether two-thirds of them are fitted with the automatic vacuum brake, the following table must be used : —

Engine must be counted as	2	vehicles
Tender " "	1	"
Eight-wheeled carriage as	2	"
Other passenger carriages as	1	"
Fish-van or other four-wheeled vehicle not carrying passengers	½	"
Carriage truck	½	"
Horse box	½	"

10. Other railway companies' vehicles fitted with the automatic vacuum brake may be coupled up and worked with G.W.R. stock. Midland, London and South-Western, South-Eastern, and Lancashire and Yorkshire vehicles have a valve for releasing the brake by hand, which can be opened by means of a rod or wire at the side of the vehicle. London and North-Western carriages have a handle at each side ; and when attached to G.W.R. vehicles should have the handle put into the position marked "auto," unless the brake is defective, when it should be put in the centre or "cut-off" position.

Starting of Trains.

11. The rear guard, before giving to the front guard or to the driver, as the case may be, the signal to start at the commencement of the journey, and at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain—

1st. That all vehicles throughout the train fitted with the automatic vacuum brake, or pipe, have the flexible pipes properly coupled up :

2nd. That the flexible pipe at the rear of the last brake vehicle is properly placed upon the stop plug :

3rd. That at least 15 inches of vacuum is indicated by the gauge in the rear van on the train.

If he find that all is right to proceed, the usual signal to start must be given, and the driver must regard that signal not only as an order to proceed but as an assurance that the continuous-brake apparatus

is in proper order ; that it is applicable to the whole of the vehicles on the train ; and that there are at least 15 inches registered on the gauge in the rear van of the train.

In the event of there being any vehicles on the train not fitted with the vacuum brake, or fitted with the continuous pipe only, the driver must be informed verbally of the number before starting, and he must be kept informed in this respect at intermediate stations where the formation of the train is interfered with.

Where there are two or more guards on the train, the signal to start must be given by the rear guard to the front guard, and by the front guard to the driver. In like manner, if there are any vehicles to which the vacuum brake cannot be applied, that information must be given by the rear guard to the front guard as soon as the formation of the train is complete, and by the front guard to the driver before he gives the signal to start.

When less than two-thirds of the whole train is fitted with the automatic vacuum brake, the driver must be informed of this fact, in the manner indicated above, and that he must not use it except in cases of emergency.

The instructions given in this rule do not apply to trains made up entirely of vehicles fitted with a continuous brake, running daily with the formation unaltered and the brake complete. When, however, in such cases the formation is altered, or vehicles are attached or detached, the guard and the engine-driver must communicate with each other.

12. In the case of vehicles fitted with the combined hand and vacuum brake, the guard must see before starting that the hand brake is screwed "full off," and the handle secured by means of the chain provided for the purpose.

13. The driver, before starting, must be careful to see :—

1. That the vacuum pipe of his engine is properly coupled up to the leading vehicle of the train :
2. That at least 15 inches of vacuum is registered on the gauge on the engine.

If he receives the signal to start without being informed that any vehicles are not fitted, he must accept that signal as an order to proceed, and as an assurance that the continuous-brake apparatus is in proper order ; that it is applicable to the whole of the vehicles on the train ; and that at least 15 inches is registered in the gauge on the rear van of the train.

If he be told that less than two thirds of the whole train is fitted with the continuous brake, he must not use it for ordinary stoppages, but only in cases of emergency.

14. If from any cause the engineman is unable to obtain at least 15 inches of vacuum, he must inform the guard of the fact, and they must work the train forward with the ordinary hand brakes.

Stopping of Trains.

15. Guards must never apply the automatic vacuum brake except in cases of absolute necessity, and whenever they do so a full report of the circumstances must be made on their journals. They must at all times be ready to apply the *hand brake* should the engineman call by whistle for its assistance.

16. When the automatic vacuum brake is to be used for the ordinary stoppage of trains, it must be by the engineman opening the air valve on the engine, but it must be done gradually and never suddenly or with full force, except in cases of emergency.

17. When less than two-thirds of the whole train is fitted with the automatic vacuum brake apparatus, it must not be used for ordinary stoppages, but only in cases of emergency. When the automatic vacuum brake is not used the train must be controlled for ordinary stoppages by the hand-brake on the engine and the guards' hand brakes.

18. Many of the slip coaches are fitted with special apparatus to enable the automatic vacuum brake to be worked independently of the main train after the carriage has been slipped. Guards working slip coaches must make themselves thoroughly acquainted with the special directions posted in the brake compartment of the slip coaches.

19. In approaching terminal stations, stations at which other trains may be standing on the same line of rails, or crossing stations on single lines, at which the train has to stop, enginemen must test the continuous brake before passing the distant-signal, and the speed of the train must be reduced by it ; and enginemen must always enter such stations (or a dead end bay at any station) at such a speed as to enable them to stop the train at the proper place by the application of the ordinary hand-brake only. The automatic vacuum brake or steam brake must only be used in cases of emergency, and guards must watch the speed of trains, and assist enginemen by the use of the hand-brake when necessary. Unless the continuous brake is working properly when thus tried, the engine-driver must whistle for the guard's hand-brake, and inform the guard, as early as practicable, that the continuous brake is out of order, and the hand-brake must then be relied upon for working the train. Special care must then be taken in approaching stations at which the train has to stop.

20. Just before coming to a stand, after the application of the automatic vacuum brake at stations, or when stopped on the road, the engineman must use his ejector so as to partially release the continuous brake. This will prevent any rebound of the carriages, and will also enable the engineman to start his train immediately on receipt of the signal to do so. The fireman must keep his hand-brake on until on the point of starting the train.

21. In the event of a train parting, the guard in the rear portion must at once apply his hand-brake, and keep it tightly screwed on until the train is again coupled to the engine.

General Instructions.

22. In running through slip stations after a slip carriage has been detached, the vacuum brake must not be used except in cases of emergency. If it is necessary to control the speed of the train, the hand-brake must be employed, and in any case the greatest caution should be used to prevent the slip carriage overtaking the train.

23. In descending inclines, the engineman must, when necessary to reduce the speed, use the automatic vacuum brake in preference to the hand-brakes.

24. At any station where there is any likelihood of vehicles being put on or taken off, the vacuum in the continuous pipe must be destroyed by opening the air valve on the engine, so that there may be no delay in coupling or uncoupling.

25. As india-rubber is dissolved by oil or grease, it is most important that nothing of a greasy nature should be applied to, or allowed to reach the piston or piston rod. The only lubrication which is required is a little pure blacklead, which must be placed inside each cylinder by the persons appointed for the purpose. The other part of the brake must be cleaned and oiled by the examiners in the usual way.

26. It is necessary that the words "Continuous Brake Train" shall be written at the top of the engineman's train-bill and guard's report for every train fitted with the automatic vacuum brake. It is also necessary for the engineman to show on his mileage ticket the trains which have been worked by him with a continuous brake during the week.

27. If from any cause the automatic vacuum brake is not used, or fails to act when required, or if there

is any irregularity in its working, a remark to that effect must be made by the guard on his report, and by the engineman on his train-bill, which must be accompanied by a special report giving full particulars of the irregularity.

28. Guards must take care during the journey that nothing in the van is allowed to rest against or in any way interfere with the lever of the brake setter.

29. When the pipes between the engine and train are disconnected, the couplings must be placed on the plug stops provided for the purpose. Detached carriages must always have the hose couplings placed on the plug stops.

30. Porters and others are cautioned that they must not pass between the vehicles over the flexible tubes while a train is standing at a platform.

31. When more than one engine is working a train, the leading engineman must control the brakes for ordinary stoppages.

These instructions cancel all previously issued on this subject.

N. J. Burlinson,
Superintendent of the Line.
W. Dean,
Chief Locomotive Superintendent and Engineer.

March 1892.

LANCASHIRE AND YORKSHIRE RAILWAY

Instructions to Engine Drivers and Guards respecting the Automatic Vacuum Brake under the Control of the Driver.

1. The brake can be applied throughout the train by the driver from the engine, or by the guard from the van. The amount of brake power at command depends on the amount of vacuum obtained.

2. It is the duty of the fireman, when the engine is attached to the train, to connect the hose coupling on the engine to that on the train; and when the engine is separated from the train, to place the hose coupling of the engine on to the plug provided for the purpose The driver must see that the fireman attends to this.

3. Before starting, the driver must see that the gauge indicates at least 18 inches of vacuum. This is done by admitting steam to the small ejector by means of the steam cock provided for that purpose. To apply the brake, move the lever on the brake valve to "*On*." In ordinary running this lever must stand at "*Off*," or "Running Position."

4. Previous to engines or vehicles being attached or detached the vacuum in the train pipe must be destroyed by opening the application valve, so that there may be no delay in coupling and uncoupling, and to avoid damage to the couplings. After the train has again been made up, and before it is started, the release wire under the body of each vehicle must be pulled.

5. To couple the hose pipes, the fireman, shunter or porter must take one in each hand and lift them sufficiently high to hook the bottom horns of the coupling together first, and then, by lowering them, place the top horns of couplings in the slots.

6. To uncouple the hose pipes, the fireman, shunter, or porter must simply lift them straight up, when the horns at the top will come out of the slots, and the couplings will then separate.

7. Guards must record on the journals the amount of vacuum registered when starting with their train.

8. It is the duty of the shunter or porter to connect the hose couplings between the carriages, and to place the hose coupling in the rear of the last vehicle on to the plug provided for that purpose. The guard must see that this has been properly attended to.

9. To release the brakes (the engine having left the train), first see that the hose coupling at one end of the train is off the plug; then pull the wire fixed under the body of each carriage as indicated by the arrows. This admits air to the top side of the cylinder, and the brakes fall off by gravity.

10. A chain with hook is attached to each end of the several vehicles composing the coaching stock. The shunter must put this hook round the rod of the screw coupling immediately above the ball, to prevent the latter touching the brake pipes.

11. *The guard is not to make use of the brake except in cases of emergency.*

12. When the guard has occasion to apply the brake, he must press down the lever on the valve placed in his van. This admits air throughout the train pipe. This valve in the van opens automatically when the brake is applied violently by the driver, and ensures rapid action; it should, however, only be so applied in cases of emergency. The guard must see by the gauge that a vacuum of at least 18 inches is maintained, or report otherwise to the driver.

13. In case of a break-loose the guard in the rear van must put the hand brake hard on, and place the strap on the wheel, before going back to protect his train. When a train or any portion of the same is detached, the vacuum brake must not be depended upon, but the hand brake must be used where there is one available; in other cases scotches must be utilised, so as to prevent the vehicles moving after the vacuum has been exhausted.

14. In order that engine drivers, before starting from stations with trains fitted with the automatic brake, may know when the brake connections are complete, the man whose duty it is to couple up the hose pipes must, as soon as the work is done, inform the guard that all is ready for the vacuum to be created. The driver must not open the ejector until the guard, by exhibiting steadily a white hand signal, indicates that he may do so.

15. Before giving the signal for a train to start, the rear guard must satisfy himself that the vacuum gauge in his van shows not less than 18 inches of vacuum. If the gauge does not show the proper amount of vacuum, the guard must hold up steadily a white flag or hand lamp towards the driver, and continue to exhibit it until the necessary vacuum is reached.

16. Engine drivers must test the continuous brake before passing the distant-signal of any terminal or junction station at which the train has to stop. Should the brake not be working properly when thus tried, the driver must whistle for the guard's hand brake, and inform the guard that the continuous brake is out of order, and that the hand brake must be relied upon for working the train.

Engine drivers are prohibited from using the automatic brake after passing the end of the platform at which they have to stop when approaching terminal and the following junction stations: Blackburn, Bolton, Manchester, Preston, Wakefield, York, and when entering all bay sidings. The train must be brought to a stand in its proper position by the use of the hand brake alone. The guard will be held responsible for applying the hand brake in his van.

Should it be necessary through any emergency to apply the continuous brake after passing the end of the platform, both the driver and the guard must specially report the circumstances. *See* Special Order M 7938.

17. When backing an engine to a passenger train before coupling up, the fireman must stand by his hand brake.

18. In the event of there being any vehicles on the train not fitted with the vacuum brake, the head guard must inform the engineman of the fact before starting, so that the engineman may know what number of vehicles he has control over, and what number are without the vacuum brake, the guard applying the manual brake for each stop.

19. Should the automatic vacuum brake altogether fail on a train fitted with a manual brake on the van at each end of the train, the driver must advise the guard, who must then work the rear brake if there is only one guard with the train; and if the train consists of more than six vehicles, and there is more than one brake-van on the train, the guard must obtain a porter to take charge of the extra van. These instructions will also apply in case of a non-vacuum engine being provided to work a train of vacuum stock.

20. Guards must be careful that luggage, &c., is arranged in the vans so that nothing can rest against or in any way interfere with the application valve lever.

J. A. F. Aspinall, Chief Mechanical Engineer.

Chas. J. Nicholson, Superintendent.

Manchester, July 1891.

LONDON AND NORTH-WESTERN RAILWAY.

Memorandum for Station Masters, Enginemen, and Guards as to the use of the Patent Continuous Brake.

Chain Brake.

Branch Line and Close-Coupled Trains.

The chain brake in close-coupled trains must be carefully applied so as to prevent any complaints of jarring the carriages, or causing any jerk between them and the engine. The driver will only apply the brake in these close-coupled trains in case of emergency.

In all cases where the chain brake is fitted to the train, a cord is connected with the apparatus in the front van, which must be attached *by the fireman* to the cord carried on the engine, before the train is permitted to leave the terminal station, *the driver being held responsible for seeing that this is done.*

The brake in the front van and carriages being, by the above means, placed under the control of the engineman, is not, under ordinary circumstances, to be worked by any guard, or travelling porter, who may be on duty in such van; but the rear brake only is to be used, in conjunction with the engine brake, for regulating the stoppage of the train, and this should be so applied as not to skid the wheels.

Should a case of emergency arise requiring additional brake power to ensure the stoppage of a train at any given point, the driver, or fireman acting under his instructions, or front guard, or travelling porter, on hearing the danger whistle, must apply the brake fitted in the front van. The danger whistle will intimate to the rear guard that the front brake is being applied, and that he is to apply the rear brake at once. (G. F., 1513.)

Vacuum Brake.

To Enginemen, Brake Attendants, Carriage Couplers, Guards, &c.

Instructions for working the Simple Vacuum Brake.

Description.

Each carriage and van is fitted with the vacuum brake, which can be applied by the driver. The van is also provided with an automatic brake, held off by a small vacuum, which is constantly maintained in the train pipe. Should this small vacuum not be kept up, the valve in the van will drop, the bell will ring, and the automatic brake be instantly applied.

A vacuum gauge is placed in the van to indicate the amount of stored-up power reserved for automatic action.

Starting.

In order that enginemen before starting from stations with trains fitted with the vacuum brake may know when the brake connexions are complete, the man whose duty it is to couple up the brake pipes must, so soon as that work is done, go to the driver and tell him that all is ready for the small vacuum to be raised. It will be the duty of the driver then to raise the vacuum by the use of his ejector.

Before giving the signal for a train to start the rear guard must satisfy himself that the spindle in the rear van has been raised by the small vacuum, that the small catch has dropped out of gear, that the bell in the van working in connexion with it has ceased to ring, and that the gauge shows not less than 15 inches of vacuum.

When the gauge shows 15 inches of vacuum the guard must WAVE *a white flag by day and a white light by night to the engine-driver, who must acknowledge this signal by waving his hand by day and by waving a white light at night.* If the gauge does not show the proper amount of vacuum, the guard must hold up steadily the white flag or hand lamp towards the driver, and must not wave it until the necessary vacuum is reached. The white flag and green flag must be shown separately to the driver, and not waved together.

It will be the duty of the guard before starting the train, and at places where the engines are changed, or vehicles attached or detached, to inform the engine-driver the number of vehicles on the train fitted with the vacuum brake complete, as well as the number fitted with the pipes only.

Attaching and Detaching.

Vehicles fitted with vacuum brake pipes only, when attached behind the rear van, must have the vacuum pipe connected up to the van, and before giving the driver a signal to start, the guard must satisfy himself that the gauge in the van shows not less than 15 inches of vacuum.

Automatic Brakes.

If at any time during a journey the automatic brake goes on, and the bell rings, the guard must at once endeavour to ascertain the cause. It may be caused by the train breaking in two, by omission on the part of the driver to maintain the small vacuum, or by failure of some part of the brake apparatus.

In all cases where the automatic brake goes on while the train is in motion, guards must not release this brake until either the train is brought to a stand or on receipt of a signal from the driver to do so.

In all cases the guards must enter particulars of the occurrence in their reports.

If during the journey the guard should notice anything wrong with the brake apparatus, or should the vacuum gauge show less than 15 inches, he must call the driver's attention by pulling the communication cord and showing to the driver a green flag or hand lamp. This will signify to the driver that the vacuum brake must not be entirely relied upon for pulling up the train at the next stopping station, and the guard must be prepared to assist the driver with his hand-brake.

Shunting.

To enable a van to be moved when the engine is detached from the train, the automatic brake can be held off by pulling up the spindle of the valve with the left hand, and by hooking in the catch with the right. The valve must be so hooked up on coming to a stand at the end of a journey.

Bell.

The bell must always be kept wound up, the carriage department being responsible for this duty at the time the train is marshalled, and the guard for attending to it on the journey.

The bell should ring when the engine is detached from a train at intermediate stations, or when the vacuum pipe is disconnected for the purpose of attaching or detaching vehicles, and when this is the case guards, porters, carriage examiners, and others concerned, are instructed that they must not interfere with the spindle in any way to prevent the bell from ringing. Guards must satisfy themselves when taking charge of a van that the bell in the van is fully wound up.

Cut-off Arrangement.

There is a handle painted red placed at each side of the carriage near the centre, and close under the frame, the object of which is to cut off the connexion between the train pipe and brake cylinder. This handle forms part of a rod extending across the carriage, and provided at each end with three notches. When the brake on a carriage is out of order from leakage or other cause, or when a carriage has to run on a foreign line *with an automatic brake, such as the Great Western, Lancashire and Yorkshire, Furness, Great Northern, and Midland Railways, and the railways south of the Thames, this handle must be pulled or pushed into one of the end notches.* When right for working, the handle will stand in the *centre notch*, and level with the side of the carriage frame.

Care must be taken that the handle is *returned to this position (centre notch)* when the carriage is put into traffic after having undergone repairs to brake gear, or after it has been working on a foreign line, such as those named above.

London and North-Western vehicles fitted with pipes only, and which have no brake apparatus operating on their own wheels, have the end pipes painted red.

Foreign Companies' Vehicles on Simple Vacuum Brake Trains.

The simple vacuum brake stock of the following railway companies may be treated in exactly the same way as ordinary London and North-Western simple vacuum brake stock:—

Caledonian,
Cambrian,
Cheshire Lines,
Manchester, Sheffield, and Lincolnshire,
Manchester South Junction and Altrincham,
North Stafford.

Any other company's vehicles fitted with vacuum brake must, in all possible cases, be placed in rear of London and North-Western trains, and the pipes not coupled up. If it is absolutely necessary to marshal them in the trains, the pipes must not be coupled up, and the vacuum brake must only be used on the vehicles between them and the engine.

If, however, the foreign vehicles are fitted with an apparatus for cutting off the brake cylinder from the main train pipe, and the brake can be put out of gear by means of such apparatus, the pipes may be coupled up.

Horse-boxes and other vehicles fitted with *pipes only* may be marshalled in the trains and the pipes coupled up.

Hand Brake.

Guards are reminded that they must use their hand brakes to stop trains on approaching terminal stations or bay sidings, and must not rely on the drivers pulling up trains by means of the vacuum brake.

The continuous brakes throughout the train being under the control of the driver, the use of the hand brake in the vans is not required for ordinary stops, but guards must be prepared to apply the hand brake immediately on its being called for by the driver's whistle.

Geo Findlay.

Euston Station,
December 1888.

Continuous Brakes.

Instruction of Staff in use of Continuous Brakes.

Inspectors in the Carriage Department have been appointed to instruct the staff at the several stations, as well as the guards, in the manipulation of the brake and its fittings, in addition to which, at the following stations, there are men specially appointed to look after the vacuum brake apparatus, and any defect occurring in working must be pointed out to them by the guards and drivers immediately on arrival at any of those places:—

Euston,	London Road,
Broad Street,	Exchange,
Willesden,	Leeds,
Bletchley,	Chester,
Northampton,	Llandudno Junction,
Peterborough,	Bangor,
Rugby,	Holyhead,
Birmingham,	Bolton,
Walsall,	St. Helens,
Wolverhampton,	Wigan,
Dudley,	Preston,
Derby,	Windermere,
Nuneaton,	Carlisle,
Stafford,	Shrewsbury,
Crewe,	Craven Arms,
Liverpool,	Abergavenny Junction,
Stockport,	Swansea.
Longsight,	

Should it be necessary at any time to send brakesmen or porters in charge of the trains in lieu of the ordinary guards, care must be taken to ascertain that they understand the instructions for working the continuous brake, which will be found posted up in each of the vans.

Vacuum Brake on West Coast Joint Stock, London and North-Western Railway, and Caledonian Railway Brake Vans.

On arrival at Carlisle of the through West Coast trains, the London and North-Western Company's fireman must leave the vacuum pipe off the stopper when he uncouples his engine from the train. This will enable the stored-up power reserved in each vehicle to be properly destroyed. The Caledonian fireman will put the vacuum pipe on the stopper when he couples his engine on to the train.

Working of the Vacuum Brake during Frost.

Notice to Locomotive Foremen and Enginemen.

In order to prevent the accumulation of ice in the pipes of the vacuum brake apparatus on engines and carriages during frosty weather, enginemen are hereby instructed that before leaving the shed to work a train they must remove the tail pipe from the stopper at the back of the tender, or both on tank engines, and give a good blow through with the large ejector. This must also be done before leaving their engines on the shed when finishing work.

Before starting with a train, and also at the principal stations at which the train is timed to stop, they must give the pipes a good blow through with the large ejector while the tail pipe of the rear vehicle of the train is off the stopper, so as to clear out any moisture that may have formed in the pipes.

A man will be appointed, belonging to the Locomotive Department, to remove and replace the tail pipe, and enginemen, on arrival at a station where the pipes are to be blown through, must look out for the person told off for this duty, who, after removing the tail pipe, will signal to the driver when to blow up, and who will replace the pipe on the stopper after the pipes have been cleared by the large ejector.

The locomotive foreman of each district must use his own discretion when to appoint men for this duty, being guided by the severity or otherwise of the frost. He must also, at his discretion, arrange for the vacuum-brake pipes between the engine and tender to be uncoupled while the engines are standing in the shed.

To Brake Attendants, Carriage Couplers, Guards, &c.

Instructions for Working the Automatic Vacuum Brake.

Description.

1. The automatic brake is continuous throughout the whole length of the train—each vehicle carrying its own reservoir and cylinder, which are connected by a branch pipe to the main train pipe. Should a train fitted with this brake become divided when running, the hose-pipes will become detached, and the brake will go on throughout each portion of the train.

2. The brake power available depends upon the amount of vacuum maintained by the driver. It is therefore necessary that at least 18, and not more than 20 inches of vacuum be maintained in the rear van whilst the train is in motion.

3. There are two gauges in the van, one showing the amount of vacuum in the train pipe, and the other the amount of vacuum in the reservoir of the brake-van.

4. The brake is applied by the driver admitting air into the main train pipe, or by the guard opening the valve on the iron stand-pipe fixed near his seat. The guard must only apply the vacuum brake in cases of emergency. The valve must be kept open until the needle of the train-pipe gauge goes back to zero.

5. When a sudden application of the brake is made, the valve in each guard's van will open automatically, thereby admitting air into the main train pipe, and thus ensuring a rapid application of the brake. The brake is released by the driver re-creating the vacuum throughout the whole train.

Arrangements for Cutting-off Brakes.

6. On all vehicles there is a quadrant and lever on each side of the sole-bar.

(On some of the carriages the word "simple," appears instead of "release," but this will gradually be made uniform with the description above named.)

The brake can be released on the different kinds of vehicles (the hose-pipe being first taken off the stopper at one end of the train or vehicle), as follows :—

1st. By moving the lever from "auto" to "simple," or by pulling the wire which will be found close to the lever.

2nd. By moving the lever from "auto" to "release" or "cut off."

The hose-pipe in each case must be off the stopper at one end of the train or vehicle.

When the brake gear on any vehicle is out of order, from leakage or any other cause, the lever on the sole-bar must be moved into the "cut-off" position, but care must be taken that the brake is properly released before doing so. This will prevent the brake gear from working on that vehicle, but will not interfere with the brake on the remainder of the train.

Starting.

7. In order that engine-drivers, before starting from stations with trains fitted with the automatic brake, may know when the brake connexions are complete, the man whose duty it is to couple up the hose-pipe must, as soon as the work is done, go to the guard and tell him all is ready for the vacuum to be created. The driver must not open the ejector until the guard, by exhibiting steadily a white flag by day and a white light by night, indicates that he may do so.

8. Before giving the signal for a train to start, the *rear* guard must satisfy himself that both the gauges in his van indicate at least 18 and not more than 20 inches of vacuum, and that both gauges indicate the same amount of vacuum. *It will also be his duty, at all places where there are no carriage-brake examiners in attendance, to see that the quadrant handles on the sole-bars of the carriages are in the "auto" position.*

If the gauges do not show the proper amount of vacuum, the guard must hold up steadily a white hand signal towards the driver, and continue to exhibit it until the necessary vacuum is created.

When the gauges show that the proper amount of vacuum has been created, the brake must be tested by the guard applying it from the rear van.

The driver will recreate the vacuum, and no further brake signal will be given.

9. This test must always be made by the guard before starting the train from the station at which it was made up, or from any place at which the continuity of the brake has been interfered with by engines or vehicles being attached or detached.

10. Where two engines are attached to a train, the hose-couplings between the engines must be connected, nd the driver of the leading engine will be held responsible for the working of the brake.

During Journey.

11. Guards must see that during the journey nothing is placed so as to interfere with the lever of the emergency-valve in the brake-vans.

12. If, during the journey, the guard should notice anything wrong with the brake apparatus, or should either of the vacuum gauges show less than 18 inches, he must call the driver's attention by pulling the communication cord and showing to the driver a green flag or hand lamp. This will signify to the driver that the vacuum brake must not be relied upon for pulling up the train at the next stopping station, and the guard must be prepared to assist the driver with his hand brake. In the case of trains not fitted with communication cord, the guard must apply his hand brake, when approaching the next stopping place, in sufficient time to bring the train to a stand at the platform without the aid of the vacuum brake, and must advise the driver of the state of the gauges in his van before proceeding.

13. Any irregularity or special circumstances in connexion with the working of the brake, or defect in its action, must be reported by the guard in charge to the superintendent of the line, as well as on his journal. The Carriage Department staff must be advised of the irregularity by both the guard and driver at the next stopping station. Guards must record in their books occasionally during the journey the amount of vacuum registered on the gauges. Should this at any time exceed 20 inches, the circumstance must be recorded by the guard on the engineman's ticket, the amount of vacuum maintained being stated.

14. The continuous brakes throughout the train being under the control of the driver, the use of the hand brake in the vans is not required for ordinary stops, but guards must apply the hand brake immediately on its being called for by the driver's whistle, *and must in all cases use their hand brakes to assist in stopping trains on approaching terminal stations, bay sidings, or principal stations, and must not rely on the driver's pulling up trains by means of the vacuum brake.*

15. In case of a break-loose, the guard in the rear van must put the hand brake hard on, and place the chain on the wheel before going back to protect his train.

Shunting.

16. When vehicles have to be moved after the engine is detached, it must first be seen that the hose-pipe at one end is off the stopper. The brake must be released as shown in paragraph 6. *Care must be taken by the person in charge of the shunting to see that the lever on the sole-bar is returned to the "auto" position after the brake has been released.*

17. It is the duty of the fireman, when the engine is attached to the train, to connect the hose-coupling on the engine to that on the train ; and it is his duty, when the engine is detached from the train, to place the hose-coupling of the front carriage on to the stopper provided for the purpose.

INSTRUCTIONS IN CASES OF DIFFICULTY IN WORKING THE AUTOMATIC BRAKE.

18. If the driver is, from any cause, unable to work the automatic brake, *the brake must be cut off, and the train worked by the hand brakes only*, the speed being so regulated as to enable the driver to have full control of the train by use of the hand-brakes only.

In all such cases guards must be on the alert and assist in stopping the train with their van brakes.

Foreign companies' vehicles not fitted with the automatic vacuum brake, nor with the through vacuum pipes, must be placed in rear of trains in which the automatic brake is in use.

G. FINDLAY,
General Manager.

Euston Station,
April 1892.

LONDON AND SOUTH-WESTERN RAILWAY.

Instructions to Enginemen, Guards, Carriage Examiners, and all others concerned, as to the use of the Continuous Automatic Vacuum Brake.

Description.

1. The automatic vacuum brake stops the train by the application of the brake blocks to the tyres of the carriages in the same way as the ordinary screw brake, but the levers which apply the blocks, instead of being worked by a screw, are worked by a piston actuated by atmospheric pressure in a cylinder.

2. The following are the principal parts of the apparatus on the carriages :—

The cylinder.
„ piston or diaphragm.
„ ball valve.
„ main train pipe.
„ flexible branch pipe, connecting bottom of cylinder to train pipe.
„ vacuum chamber, connected to top of cylinder.
„ miniature sack, to prevent the admission of air to the bottom of piston.
„ release lever or ball valve, connected to each side of carriage underframe by wire cord.
„ dummy.
„ "Universal" hose and coupling.

3. By means of the ejector placed upon the engine the air is drawn out of the main train pipe, and from the top and bottom sides of the piston or diaphragm in the cylinder through the flexible branch pipe and through the ball valve from the vacuum chamber, so that in running a vacuum should be maintained throughout the system of 20 inches, and certainly not less than 15 inches.

4. *Brake on.*—The brake is operated either by the brake valve on the engine in connexion with the main train pipe or by the guard pressing downwards the lever of the van valve, which is likewise connected with the main train pipe. The effect of this is to admit air to the train pipe, and thence through the flexible branch pipe to the bottom side of piston, thereby applying the brakes, the top side and vacuum chamber maintaining the vacuum through the action of the ball valve, which closes immediately air is admitted to the train pipe.

On a full application of the brake—from whatever cause—all the van valves in the train will open automatically and admit air through each van valve simultaneously, thus obtaining a more rapid application of the brake.

5. In the event of a train parting, the "Universal" hose and couplings will, without damage, become detached, and the brakes will immediately apply themselves.

6. *Brake off.*—In order to release the brakes the driver must move the lever of brake valve on the engine to the position marked "off," when the ejector will at once re-create the vacuum throughout the system as before described, thus allowing the piston to fall by its own weight and thereby release the brakes.

7. To release the brakes on any carriages that require to be shunted, in the event of the engine not having done so before being detached from the train, the ball valve must be opened on those carriages by means of a small wire cord which is placed on either side of the carriage underframe. This admits air to the vacuum chamber and top side of piston, thus restoring equilibrium on both sides of piston, under which conditions the brakes fall off by their own weight.

8. A dummy is provided to which the rear coupling must always be attached.

Instructions for working.

9. In the formation of trains, the coaches fitted with the automatic vacuum brake must be placed together next to the engine, so that the automatic vacuum brake may be used.

10. The brake can be applied throughout the whole of the vehicles fitted with the apparatus by the engineman from the engine or by the guard from his van, as before described; but in order that this may be done, it is imperative that the flexible connexions between each carriage and between the engine and the train be properly coupled up; also that the flexible connexion on the last vehicle fitted with the brake be placed on the dummy provided for that purpose as described in clause 8.

11. The brake must be used for ordinary stops, but must not be applied with full force except in cases of emergency. For ordinary stops, and particularly when approaching junctions where timed to stop, enginemen must be careful to reduce the speed, so that a moderate application of the brake will suffice.

12. Guards must not apply the automatic vacuum brake except in cases of absolute necessity, and whenever they do so a full and special report of the circumstances must be made, and the occurrence must also be notified on their journals; they must at all times be ready to apply the hand brake should the driver call for assistance.

13. In approaching terminal stations, or stations at which other trains may be standing on the same line of rails, the vacuum brake must not be used except in cases of emergency, but the speed of the train must be so reduced that it may be brought to a stand by means of the hand and steam brakes alone.

14. In descending inclines the engineman must use the automatic vacuum brake in preference to the hand and steam brakes.

15. In running through slip stations after a slip carriage has been detached, the vacuum brake must not be used excepting in cases of emergency. If it is necessary to control the speed of the train, the hand brake must be employed; in any case the greatest caution should be used to prevent the slip carriage overtaking the train.

16. *Guards.*—The guard before giving the signal to start at the commencement of the journey, and at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain and inform the engineman—

(*a.*) That all the flexible pipes are properly coupled up continuously throughout the train, and that the flexible pipe of the last brake vehicle is properly placed upon the dummy.

(*b.*) The number of vehicles in the train fitted with the brake the flexible pipes of which are coupled up to the engine.

(*c.*) The number of inches of vacuum indicated by the gauge in the rear van.

17. *Enginemen.*—The engineman before starting at the commencement of the journey, and also at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain from the guard the number of vehicles in the train fitted with the brake the flexible pipes of which are coupled up to the engine, and the number of inches of vacuum shown by the gauge in the rear van.

He must also be careful to see—

(*a.*) That the vacuum pipe of his engine is properly coupled up to the leading vehicle in the train.

(*b.*) The number of inches of vacuum indicated by the gauge on the engine.

18. If from any cause the engineman is unable to obtain at least 15 inches of vacuum he must inform the guards of the fact, and the train must be worked forward with the ordinary hand and steam brakes, and he must report on his daily brake return when he is not able to obtain 20 inches.

19. When the pipes between the engine and train are disconnected, the couplings must be placed on the dummies provided for that purpose. Detached carriages must always have the hose couplings placed on the dummies.

20. At any station where the driver is informed that vehicles are to be attached to or taken off the train, the vacuum in the main train pipe must be destroyed, as described in clause No. 7, so that there may be no delay in coupling or uncoupling.

21. In the case of vans fitted with the combined hand and vacuum brake, the guard must see before starting that the hand brake is screwed full "off" and the handle secured by means of the chain provided for the purpose.

22. It is necessary that the forms specially provided for the purpose should be made out daily by enginemen working automatic vacuum brake trains, and be left with the daily return each night, and if from any cause the brake is not used, or there is any irregularity in its working a remark must be made by the driver on the form to that effect, and also by the guard on his journal.

The guard must also make a special report of the occurrence.

23. When vehicles are supplied with connecting pipes only, they must be considered as vehicles without the brake, but the brake connexions must be made as described in clause 10.

24. When vehicles not fitted with a continuous brake or having connecting pipes only, are attached to a train fitted with such brake, or to an engine having the brake on the engine wheels as well as the tender wheels, the guard in the rear van must, immediately upon the continuous or engine brake being applied by the driver, apply his hand brake, and keep it tightly on, either until the train has come to a stand or the driver has taken off his brake, and is again going forward, as the case may be. This arrangement is necessary to prevent the rebound of the carriages and possible breaking of the drawbars which may occur when a powerful brake is applied to the front portion of the train only.

W. Adams,
Locomotive and Carriage Superintendent.

E.W. Verrinder,
Traffic Superintendent.

London, November 1882.

LONDON, BRIGHTON, AND SOUTH COAST RAILWAY.

Westinghouse Automatic and Continuous Brake.

Description and instructions for working.

Description.

Compressed air is the agent employed to apply the brake. The air is compressed by a small engine and pump placed on the locomotive. The driver or any of the guards can apply the brake, *and it applies itself, in the case of a break-away, or the failure of its main pipe or couplings.*

The tender and each of the vehicles of the train are fitted with the following parts:—(1) a triple valve, (2) a supplementary air reservoir, and (3) a cylinder with piston; the latter in connexion with (4) the brake lever and blocks.

When a train is made up and ready to start, and also when it is running, compressed air stands at equal pressure throughout its length, that is to say, in the main reservoir, in the pipe from end to end of the train, and in the triple valve and supplementary reservoir on each vehicle.

To apply the brake, air is allowed by the driver to escape, or in an emergency, by any of the guards. This causes the triple valves to move down, the air stored in the supplementary reservoirs to pass instantly into the cylinders, the pistons and rods to be forced out, and the blocks to press against the tyres of the wheels.

To release the blocks from the wheels, air is allowed to pass from the main reservoir along the train. This moves the triple valves up, re-charges the supplementary reservoirs, and at the same time allows the air which had forced out the pistons to escape into the atmosphere.

Instructions.

Drivers must see (1) that the steam cylinder is kept well lubricated, (2) that the air pump is sparingly lubricated with a small quantity of mineral oil—tallow or lard oil must not be used in the air pump,—(3) that the pump is constantly run, but *never faster than is necessary to maintain the required air-pressure*, say for stopping trains 60 lbs., and for express trains 85 lbs.

The brakes must not be used with more than half the full force, except in case of danger.

The brakes are fully set when the pressure shown on the gauge is reduced 25 lbs. Any further reduction would be waste of air.

To apply the brakes lightly, the tap must be partially opened and gently closed when the pressure has been reduced from 4 to 8 lbs.

In releasing the brakes the handle must be moved against the stop and kept there for about five seconds, and then moved back just far enough to stop the flow of air from the small hole in the top of the tap.

Drivers, upon feeling the brakes are applied, must at once aid in stopping the train by turning the three-way cock and preventing escape of air from the main reservoir.

Guards.—After making up or adding to a train, or after another engine has been attached, the rear guard must ascertain whether the brake is connected throughout by examining the pressure in the gauge, slightly opening its escape tap, and ascertaining that air escapes, or, when a van is not the last vehicle, by opening the rear tap in the brake pipe.

Guards, when they have occasion to apply the brake from a van, must hold the handle and allow the air to escape until the train is brought to a standstill, but must only use the brake in case of emergency.

Guards *must, in all cases, screw the hand brakes clear off before starting.*

General.—Before detaching the engine, the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or tap when the engine is away, may cause serious inconvenience in shunting. The pipes and

joints must be kept tight, and when leaks are discovered they must be corrected, if serious, before the vehicle is again used.

The brake pipe has a tap at each end of every vehicle, all of which taps should be open when the hose couplings are united, except the one at the rear of the train. These taps must always be opened *after* connecting the hose couplings, *and closed before separating them.*

If the brakes are applied by the separation of the train, or the breaking of a pipe, they can be released by opening the small taps in the brake cylinder or pipes leading thereto. These taps, after the release of the brakes, must be closed. If the brakes are applied after the engine has been disconnected, they can be released as above, or by again connecting.

It is important to observe that the taps at the ends of the vehicles are open when the handles stand across, or away from the line of pipe, and closed when parallel to, or alongside the pipe.

When the handle of the tap of the triple valve stands across, or away from the valve, it is set for the automatic brake. When against the stop at an angle of 45°, the brake is thrown out of use on the carriage.

Care must be taken (1) that the brake connections are perfect, and properly adjusted for the wear of the blocks and wheels, (2) that the brake cylinders are perfect and lubricated occasionally with *mineral oil*, and (3) that the couplings and other parts are right.

Carriage examiners must see that the cocks under each carriage are in their proper position before the train starts, so that it may not be delayed on the journey.

Shunters in all cases, after coupling the connexion pipes, must open the cocks at the end of each carriage except the last, so as to complete the brake throughout the train. In uncoupling, the connexion pipe cocks must be shut, but before doing so, shunters must satisfy themselves that the driver has taken the brake off, and that the hand brake at the rear of the train has been applied.

No person must tamper with the tap in the brake van, as by so doing the brake is instantly applied, and cannot be taken off again except by opening the cock under each carriage, or attaching the engine to the train.

Engine-drivers and guards are not to depend entirely upon the action and power of the brake, but, when approaching terminal stations, or junctions, must have their trains well under control, so that the trains can be brought to a standstill with the hand brakes, if necessary.

The engine-drivers and guards must ascertain before the departure of the train if the automatic brake is complete throughout the train.

Trains fitted with this automatic brake must not approach and enter terminal stations at a speed greater than that which has been usual with trains worked by the ordinary hand brake.

J. P. Knight,
General Manager.

London Bridge,
16th April 1878.

LONDON, CHATHAM, AND DOVER RAILWAY.

Westinghouse Automatic Air-brake.

Description.

Compressed air is the power employed to work the brake.

The air, compressed by an air pump on the engine into a main reservoir, flows through the driver's brake valve into the main brake pipe, which extends the whole length of the train, and fills on each carriage a small reservoir by means of the triple valve attached to it. Each triple valve is also connected to a brake cylinder. As soon as the pressure in the brake pipe is lowered, the triple valve piston on each vehicle is moved down by the greater pressure above it, stored in the small reservoir, which is then allowed to past instantly into the cylinder, force out the piston and rod, and thus cause the blocks to press against the wheels.

The brakes are released by an increase of pressure in the main pipe, produced by allowing air to pass from the main reservoir along the train. This moves up the triple valves, recharges the small reservoirs, and at the same time allows the air which had forced out the pistons to escape into the atmosphere.

The driver or guards can apply the brake, and it applies itself in the case of a break-away or the failure of its main pipe or couplings.

Instructions.

Drivers must see (1) that the top or steam cylinder is kept well lubricated; (2), that the air cylinder is sparingly lubricated with the lubricant provided for the purpose; (3), that the pump shall be constantly run, but never faster than is necessary to maintain the required air pressure, say 50 to 60 lbs. for stopping trains, and from 70 to 80 lbs. for express trains.

For ordinary stops the brake should be applied lightly by turning the handle of the driver's valve to the right, and gently closing it again after a reduction of pressure in the brake pipe of not less than 5 lbs., nor more than 8 lbs., has been made. If the pressure runs up on the gauge when the handle is brought back, it shows that the valve has been shut too quickly.

In ordinary working the brakes are fully applied when the pressure shown on the gauge is reduced 25 lbs.

Any further reduction is waste of air. In case of emergency, however, the handle must be turned so as to let all the air in the brake pipe escape.

Long trains require more careful handling than short trains, and a greater quantity of air must be discharged from the brake pipe to make the same reduction per square inch on the gauge. The driver, before starting, must ascertain the number of vehicles on the train.

In releasing the brakes the handle must be moved quite against the stop to the left and kept there for about 10 seconds, or until the pointer on the gauge shows signs of rising, and then be moved back against the intermediate stop, which is the feed position, and *where it must remain whilst the train is running.*

Drivers must always satisfy themselves that the brake coupling on their engine is properly connected to that on the train, and that *the cocks on the brake pipe, except the one at the rear of the last vehicle connected with the brake, are open.*

The engine and tender brake blocks should be so adjusted that the pistons travel from 2 to 4 inches.

The drivers must be careful to drain the water out of the main reservoir and drip-cup once a week, and in winter time and frosty weather more frequently. The plugs in the triple valves and small reservoirs on engine and tender are to be taken out at least once a month.

If vehicles having different air pressures be coupled together, the brakes will apply themselves on those which have the highest pressure. To ensure the certain release of all the brakes in the train, and in order that the train may be charged quickly, the driver must carry the maximum pressure in the main reservoir before connecting to the train. When coupled to the train, he must put the handle of his brake valve in the release position until the train is charged with air, and this is shown to have taken place when the pointer of the gauge begins to rise.

If the brakes on the engine and tender are found to apply themselves when the engine is coupled to a train not charged, they should at once be taken off by opening the release valves from the brake cylinders.

After connecting the engine to the train, or after new vehicles have been added, the pipes and reservoirs should be charged as quickly as possible. The brakes should then be applied with full force by the driver,

who should not start away until the inspector or guard has signalled that the brakes are acting on all the vehicles.

Should the driver discover any defect in the working of the brake which will render it ineffective, he must at once give the guard notice, and arrange with him as to the use of the hand-brake in the van when necessary.

In running into terminal stations with buffer-stops and at junctions where he has to stop, and also when moving up to attach his engine to a train, the driver must not rely upon the continuous brake, but must so regulate the speed of the engine that the ordinary application of the hand-brake on the engine or tender will be sufficient to bring the train or engine to rest.

In ordinary stoppages at stations the driver must use the brakes so as to stop the train without any jerk.

When working the Westinghouse brake with two engines coupled together, the driver of the leading engine must take charge of the brake, and he must work it as he would on an ordinarytrain, not considering the second engine except as a vehicle. The driver of the second engine must keep his handle in the neutral position, and the donkey pump slowly and steadily working; by this means he shuts off all communication from the main reservoir to the train pipe, and the pressure in the reservoir is kept above that in the train pipe, otherwise the brakes would apply themselves by air escaping from the train pipe past the driver's valve to the main reservoir.

The driver, on finding that the brakes have been applied by the guard or automatically by burst hose or couplings parting, must at once aid in stopping the train by turning the handle of the driver's valve towards the right, thus preventing escape of air from the main reservoir.

The driver must enter on his ticket all cases of irregularity in the working of the brake, and call the attention of the examiner at the first station to any defect in the brakes of any of the carriages, and enter their numbers on his ticket.

Guards.—Before leaving the terminus, after adding to a train on the journey, or on another engine being attached, the rear guard must ascertain whether the couplings are connected and the cocks in the brake pipe are all open throughout the train by applying the brakes from his van and seeing that *they are released from the engine.* In making this test the pressure of the air in the pipes as shown by the gauge should not be reduced more than is absolutely necessary. If the brake is not in use on the whole train, or if the van is not the last vehicle, the test should be made by opening the cock in the brake pipe of the last vehicle connected.

A guard, when he has occasion to apply the brake from his van, must open the cock and allow the air to escape until the train is brought to a standstill, but he should only use the brake in cases of emergency.

Guards must in all cases screw the hand-brakes clear off before starting.

The guard must enter on his report all cases of irregularity in the working of the brakes.

Examiners (*Locomotive Department*).—Examiners must see (1) that the brake connections are perfect and properly adjusted for the wear of the blocks and wheels by being uniformly taken up. The pistons of double piston cylinders should each travel not less than two nor more than four inches. Those of single piston cylinders should not travel less than four nor more than eight inches; (2), that the brake cylinders are perfect and lubricated at least every three months with *mineral oil;* (3), that the hose couplings are united and the cocks in the pipes, except the one at the rear of the last vehicle connected with the brake, are open, that is, the handles must stand across or away from the pipe, except the one at the end of the train, which must lie along the pipe in the shut-off position; (4), that the joints are all air-tight; (5), that the cocks under the carriages connecting the triple valves with the train pipe are full open, and that the release valves on the brake cylinders are in proper working order, with the cords for opening them attached to the sides of the under frame. Examiners, on the arrival of a train, must ascertain from the driver if any irregularity exists in the working of the brake on the carriages, and take steps to remedy the defect, if there is time, before the train starts again. If it is found necessary to cut off the brake by closing the half-inch cock, the carriage must be at once reported, and sent to the shops on arrival at the terminus for examination.

Shunters and Porters, when making up trains or attaching carriages, must *always open the cock on the brake pipe at the end of each carriage after connecting the hose couplings,* except the one at the hind end of the last vehicle in the train, and *always close them before separating the couplings.*

After uncoupling, the loose ends of the hose-pipes must be secured in the hose clips provided for the purpose.

General.—Before detaching the engine or any carriages, the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or cock when the engine is away, may cause serious inconvenience in shunting. The pipes and joints must be kept tight, and when leaks are discovered they should be corrected, if serious, before the vehicle is used again.

If the brakes are applied by the separation of the train or the breaking of a pipe, they can be released by opening the small release valves in the brake cylinders or pipes leading thereto.

If the brakes are applied after the engine has been disconnected, they can be released as above or by again connecting the engine.

The brake of any vehicle can be put out of operation without affecting the others by closing the cock under the vehicle between the brake pipe and triple valve.

No person must tamper with the cock in the brake-van, as by so doing the brake is instantly applied and cannot be taken off again except by opening the cock under each carriage or by attaching the engine to the train.

November 1890.

Appendix to "Instructions to Drivers."

The "Instructions" of November 1890, on the working of the driver's brake valve, refer only to the original and older pattern of valve, and drivers must note that if their engines are fitted with the new equalising brake valve, the following instructions for working it must be carried out instead.

New equalising Driver's Brake Valve.

Instructions for Working.

Always reduce the pressure shown on the gauge not less than 8 lbs. in making the first application of the brakes. The second reduction can be any amount necessary, either large or small.

1st or Release Position.—Push the handle over to the LEFT as far as it will go against the stop.

2nd or Running Position.—Pull out the handle from the first position until it comes up against the first projection it meets with on the rim of the case.

This maintains the proper difference of pressure between the main reservoir and the brake pipe (say 20 lbs.) If any brakes creep on again when the handle is brought too soon to the running position after release, put it back to the release for a few seconds and then return it to the running position.

3rd or Neutral Position.—Move the handle a little further to the right, just over the first projection, until it lies against the other side of it.

This cuts off the connexion between the main reservoir and the train pipe.

4th Position for Ordinary Stops. — Turn the handle further to the right until it lies against the next or the second projection on the rim of the case.

5th Position for Quick or Emergency Stops. — Push the handle over to the RIGHT as far as it will go against the stop.

Positions of Handle.—1. Release: to the left as far as it will go. 2. Running: against the left side of the first projection. 3. Neutral: against the right side of the first projection. 4. Ordinary stop: against the left side of the second projection. 5. Quick stop: to the right as far as it will go.

The small spring-seated feed valve maintaining the extra pressure in the main reservoir must be taken out and wiped clean once a week.

Pilot Running.

When two engines are coupled together, if the second engine is fitted with the new brake valve, the driver of the second engine must close the cock under the brake valve, and place the brake valve handle in the release position and leave it there, the driver of the first engine alone working the brakes.

As soon as the pilot engine is detached, the driver of the second engine should re-open the cock under the brake valve.

January 1891.

The Vacuum Automatic Brake.

This Brake can be applied throughout the train by the driver from his engine, or by the guard from his van.

Drivers' Instructions.—Before starting see that your gauge indicates at least 18 inches of vacuum. This is done by admitting steam to the small ejector by means of a steam cock placed for that purpose. To apply the brake move the lever on the combination ejector to "on." In ordinary running this lever must stand at "running position." To release the brake move the lever to position "off." *When the vacuum is suddenly destroyed in the main pipe the brake is full* "on." When separated from your train see that the couplings are placed upon the dummies fixed for that purpose.

Guards' Instructions.—To apply the brake press down the lever on the valve placed in the guard's van. This admits air throughout the train pipe, and is to be only employed in cases of emergency. This valve opens automatically when the brake is applied with full force by the driver, and ensures rapid action. See that all pipes between carriages are properly coupled together, and that the couplings on the end coaches are placed upon the dummies. See by your gauge that a vacuum of 18 inches is maintained. Report otherwise to driver.

General Instructions.—To release the brakes for shunting purposes (the engine having left the train), first see that the hose coupling at one end of the train is off the dummy, then pull the cord which is fixed under the body of each carriage as indicated by the arrows. This admits air to the top side of the cylinder, and the brakes come off by gravity.

March 1885.

LONDON, TILBURY, AND SOUTHEND RAILWAY.

Instructions as to working the Westinghouse Continuous Brake.

Description.

Compressed air is the agent employed to apply the brake. On the engine there is a donkey pump for compressing air into a main reservoir. There is one 13 in. brake cylinder for the driving wheels, and one 8 in. for each other vehicle. A single line of pipe extends the entire length of the train. On the engine and each vehicle is a triple valve having one connexion with main pipe, and second connexion to a reservoir on each carriage, and a third connexion to the brake cylinder. The pipe from the main reservoir leads to a valve and thence to the train. This valve is operated by the driver, who, by the movement of the handle in one direction, admits air to the main pipe from the main reservoir in order to charge the small reservoirs and release the brakes when they are applied, and by moving it in the opposite direction, discharges air from the brake pipe to the atmosphere, and so applies the brakes. If a train breaks in two, the couplings come apart so as to permit the escape of air and the consequent application of the brakes. Similarly, if the pipe is fractured, the brakes are at once applied.

The operation is as follows:—The pump is started and air is compressed into the main reservoir. When the engine is coupled to the train, air passes into the pipe, triple valve, and reservoir on each carriage, charging all equally.

To apply the brakes, the pressure is lowered in the brake pipe by the driver operating his valve. This causes the triple valve to move so as to open a passage for the compressed air from each reservoir to its brake cylinder, the piston of which applies pressure to the levers and brake blocks.

The brakes are fully set when a reduction of pressure to the extent of 25 lbs., shown by the gauge, has been obtained; any further reduction is a waste of air.

The brakes are released by admitting air from the main reservoir to the brake pipe, which re-charges the pipe and triple valves and reservoirs, whilst at the same time a passage is opened from each cylinder to the atmosphere. A cock is placed between each triple valve and the main pipe, so that the brake on any particular carriage can be put out of use. The brakes of the detached portion of a train, if applied, can be released by holding open a valve on each brake cylinder. These release valves close automatically when not held open to release the brakes. There is a cock in each van to apply the brakes, and a gauge on the engine, and in each van to indicate the pressure in the main pipe; there is also a gauge on the engine to indicate the pressure in the brake cylinder.

Instructions.

Drivers must see:—(1) that the top, or steam cylinder of the air pump is kept well lubricated; (2), that the air cylinder is sparingly lubricated with the lubricator provided for the purpose; (3), that the pump is constantly run, but never faster than is necessary to maintain the required air pressure; and (4), that air from 60 to 65 pounds pressure is carried.

For ordinary stops the brake should be applied lightly, by turning the handle of the driver's valve to the right, and gently closing it again, after a reduction of pressure in the brake pipe of not less than 5 lbs. nor more than 8 lbs. has been made. If the pressure runs up on the gauge when the handle is brought back, it shows that the valve has been shut too quickly.

In ordinary working the brakes are fully applied when the pressure shown on the gauge is reduced 25 lbs.; any further reduction is a waste of air. In case of emergency, however, the handle must be turned so as to let all the air in the brake pipe escape.

Long trains require more careful handling than short trains, and a greater quantity of air must be discharged from the brake pipe to make the same reduction per square inch on the gauge. The driver, before starting, must ascertain the number of vehicles on the train and the number working with brakes or pipes only.

In releasing the brakes, the handle should be kept in release position until the pointer of the indicator shows signs of rising and then be moved back against

the intermediate stop, which is the feed position, where it must remain whilst the train is running.

The driver must always satisfy himself that the brake coupling on his engine is properly connected to that on the train, and that the cocks in the brake pipe, *except the one at the rear of the last vehicle connected with the Westinghouse brake* are open.

The blocks of the driving wheel brake should be so adjusted, by turning the screw, that the pistons travel from 3 to 4 inches.

The driver must be careful to drain the water out of the main reservoir once a week, and in frosty weather more frequently.

If vehicles, having different air pressures, be coupled together, the brakes will apply themselves on those which have the highest pressure. To ensure the certain release of all the brakes in the train, and in order that the train may be charged quickly, the driver must carry the maximum pressure in the main reservoir before connecting to the train. When coupled to the train, he must put the handle of his brake valve in the release position until the train is charged with air, and this is shown to have taken place when the pointer of the indicator begins to rise. If the brakes on the engine are found to apply themselves when the engine is coupled to a train not charged they should at once be taken off by opening the release valve from the brake cylinders.

After connecting the engine to the train, or after new vehicles have been added, the pipes and reservoirs should be charged as quickly as possible. The brakes should then be applied with full force by the driver, who should not start away until the inspector or guard has signalled that the brakes are acting on all the vehicles.

The driver, before commencing a journey, must inform the guard whether the engine is fitted with the brake apparatus or not, in order that he may know how to act as to the use of the hand brakes.

Should the driver discover any defect in the working of the brake which will render it ineffective, he must at once give the guard notice, and arrange with him as to the use of the hand brake in the van, when necessary.

In running into stations with block ends, and at junctions where he has to stop, and also when moving up to attach his engine to a train, the driver must not rely upon the continuous brake, but must so regulate the speed of his engine that the ordinary application of the hand brakes on the engine will be sufficient to bring the train or engine to rest. In ordinary stoppages at stations, the driver must use the brakes so as to stop the train without any jerk.

The brakes must not be used with more than half their force, except in cases of emergency.

When working the Westinghouse brake with two engines coupled together, the driver of the leading engine must take charge of the brake, and he must work it as he would on an ordinary train, not considering the second engine, except as a vehicle.

The driver of the second engine must keep his handle in the neutral position, and the donkey pump working; by this means he shuts off all communication from the main reservoir to the main pipe of the train.

The driver, on finding that the brakes have been applied by the guard, or automatically, must at once aid in stopping the train by turning the handle of the driver's valve towards the right, thus preventing escape of air from the main reservoir.

The driver must enter on his engine ticket all cases of irregularity in the working of the brakes.

Guards.—Before commencing a journey must ascertain from the driver whether the engine is fitted with the Westinghouse brake apparatus or not, and before leaving the terminus, or after adding to a train on the journey, or on another engine being attached, the rear guard must ascertain whether the couplings are connected, and the cocks in the brake pipe are all open (except the one at the rear of the last vehicle connected with the Westinghouse brake) throughout the train by applying the brakes from his van and seeing that *they are released from the engine.* In making this test the pressure of air in the pipes, as shown by the indicator, should not be reduced more than is absolutely necessary. If the Westinghouse brake is not in use on the whole train, or if the guard's van is not the last vehicle, the test should be made by opening the cock in the brake pipe of the last vehicle connected.

A guard, if he should have occasion to apply the Westinghouse brake from his van during the running of the train, must open the tap and allow the air to escape until the train is brought to a standstill, but he should only use the Westinghouse brake in cases of emergency.

In running into stations with block ends, and on approaching junctions where the train may have to stop, the guards must be especially prepared to assist the driver by the ordinary application of their hand brakes to bring the train to rest.

The guards must, in all cases, screw the hand brakes clear off before starting.

The guard must enter, on his report, all cases of irregularity in the working of the brakes.

Examiners (*Locomotive Department*).

Examiners must see:—(1) That the brake connexions are perfect and properly adjusted for the wear of the blocks and wheels by being uniformly taken up. The pistons of double piston cylinders should each travel not less than two, nor more than four inches. Those of single piston cylinders should not travel less than four, nor more than eight inches. (2) That the brake cylinders are perfect and lubricated at least every three months with mineral oil. (3) That the hose couplings are united, and the cocks in the pipes, except the one at the rear of the last vehicle connected with the Westinghouse brake, are open, that is, the handles must stand across or away from the pipe, except the one at the rear of the last vehicle connected with the Westinghouse brake, which must lie along the pipe in the shut-off or closed position. (4) That the joints are all air-tight.

General.—Before detaching the engine or any carriages the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or tap when the engine is away, may cause serious inconvenience in shunting. The pipes and joints must be kept tight, and when leaks are discovered they should be corrected, if serious, before the vehicle is again used.

The brake pipe has a tap near its junction with the hose coupling at each end of every vehicle, and these taps must always stand open between each vehicle when the hose couplings are united, and always closed when the hose couplings are not united. After connecting two hose couplings these taps must always be opened, but before separating two hose couplings these taps must always be closed.

The taps are open when the handles stand away from, or at right angles with, the brake pipe, and closed when the handles lie along, or in the same direction as, the brake pipe.

If the brakes are applied by the separation of the train, or the breaking of a pipe, they can be released by opening the small release valves in the brake cylinder or pipes leading thereto. These taps after the release of the brakes must be closed.

If the brakes are applied after the engine has been disconnected, they can be released as above or by again connecting to the engine.

The brake of any vehicle can be put out of operation without affecting the others, by closing the tap under that vehicle, between the brake pipe and triple valve.

No person must tamper with the tap in the brake van, as by so doing the brake is instantly applied, and cannot be taken off again except by opening the cock under each vehicle, or by attaching the engine to the train.

Station masters, inspectors, guards, shunters, and all members of the staff concerned in the working of the trains, must make themselves thoroughly acquainted with the whole of these instructions.

ARTHUR L. STRIDE,
Engineer and Manager

MERSEY RAILWAY.

VACUUM CONTINUOUS AUTOMATIC BRAKE.

All engines and carriages owned by the Mersey Railway are fitted with this brake apparatus.

This can be applied throughout *the train* by either the driver from the engine or the guard from the brake-van. The engines of the new "Victoria" class are fitted with the vacuum brake, but in engines of the old "Major" class, the apparatus, although *worked* from the engine, does not put on the brakes on the *engine or tender*, a steam brake being supplied for this purpose, which applies itself automatically whenever the vacuum brake is used, but can also be used independently.

The continuous brake must be used by *the drivers for all stoppages, but the guards must not make use of it* except in cases of absolute necessity, and whenever they do so, a full and special report must be made of all the circumstances, the fact being also noted on their daily report.

The amount of brake power at command depends upon the amount of vacuum obtained, and before starting, the driver must see that the gauge indicates at least 18 inches of vacuum. This is obtained by admitting steam to the small ejector by means of the steam cock provided for the purpose. To apply the brake, move the lever on the brake valve to "ON." In ordinary running this lever must stand at "RUNNING POSITION." To release the brake the lever should be in the position "OFF." When the vacuum is suddenly destroyed in the main pipe the brake is full "ON."

When the guard has occasion (*in emergency only*) to apply the brake he must press down the lever on the valve placed in his van. This admits air throughout the train pipe and the brake is at once applied. The valve in the van opens automatically when the brake is applied violently by the driver and ensures rapid action, but it must, however, not be so applied except in cases of emergency. The guard must see by his gauge that a vacuum of at least 18 inches is maintained; if it falls below this amount he must at once report the fact to the driver.

In the event of a break loose, the continuous brake will be automatically applied, but the guard in the rear van must not rely solely on this, but must put his hand brake hard on and firmly secure it before going back to protect his train.

It is the duty of the fireman, when the engine is attached to the train, to connect the hose coupling on the engine or tank to that on the train; and it is his duty when the engine is detached to place the hose couplings, after disconnecting them, on the respective plugs provided for the purpose. The driver is responsible for this duty being properly attended to by the fireman.

It is the duty of the shunter or porter to connect the hose couplings between the carriages, and to place the hose coupling in rear of the last vehicle on the plug provided for the purpose. The guard is held responsible for this being done. When trains or carriages are placed in the carriage sheds or sidings at the termination of the day's work, the hose coupling at the end of the tram or carriage must be taken off the plug, and the driver, before detaching his engine, must put full steam on the large ejector and blow through for at least one minute while the coupling is off the plug. The coupling can be replaced and the engine detached. The carriage foreman at the Central station and the station inspector at the other stations will be responsible for this being carried out.

When empty trains are left in the temporary sidings in the tunnel east of James Street, or at other places where the gradient is severe, the hand-brakes must be placed hard on before the engines are detached. The guard will be held responsible for this being done.

To release the brakes, after the engine has been detached, the hose coupling at one end of the train must be taken off the plug, the wire fixed under the body of each carriage must be pulled as indicated by the arrows. This admits air to the top side of the cylinder and the brakes fall off by gravity. It is the duty of enginemen in every instance, *before taking their engines out of the shed*, to test the apparatus on both engine and tender, and also when engine is fitted with STEAM BRAKES, whether in addition to the vacuum brake or otherwise, they must be tested with full steam pressure.

Enginemen must always test the continuous brakes, to satisfy themselves that they are in proper working order, after their engines are attached to the trains and immediately before starting.

Drivers must have their trains under such control when approaching terminal stations as will enable them if necessary to stop at the required place, by using only the engine steam brake and guard's hand brake.

METROPOLITAN RAILWAY.

INSTRUCTIONS FOR WORKING THE VACUUM BRAKE.

I. All trains on which this brake is fitted will be controlled by the driver only, unless the guards are specially called upon to apply their brakes by the usual whistle signal.

II. In using this brake, the force to be applied must not exceed 15 inches on the vacuum gauge, and drivers must shut off steam and apply the brake, so that the stoppage can be properly effected with this power.

III. The excess of power beyond 15 inches of vacuum is not to be used except in cases of emergency, such as an unusual stoppage, or accident to train or engine.

IV. Before starting with the train, the driver is to test the connecting pipes to see if they are properly coupled up, by turning steam into the ejector. If all is right, the gauge will show it by the pointer remaining where carried by the vacuum.

V. The use of this brake is intended to give greater certainty in making stoppages, and to prevent the skidding of wheels.—Any driver, therefore, who recklessly runs into a station, and skids the wheels to stop, will be severely punished.

VI. In approaching all terminal stations, viz.:—New Cross, Aldgate, Moorgate (North Dock), Baker Street East, Hammersmith and Richmond, the train must be completely under control before the engine reaches the platform, so that a careful stop may be made by the hand brakes of the engine only; and the guards must be prepared to assist with hand brakes if required. Should it be necessary for the drivers to use the vacuum brake, a special report must be made detailing the circumstances.

VII. Should an engine fitted with this brake have any defect in the ejector or pipes, the driver must, before starting with the train, give the guard notice that the hand brakes will require to be used, so as to avoid the necessity for calling on him to apply the brake on approaching each station.

VIII. The guards, before starting with a train, must see that the engine is properly fitted with the vacuum brake, as should it not be so the hand brakes must be used in the usual way.

JOHN BELL,
March, 1892. *General Manager.*

Instructions for Working the Automatic Vacuum Brake.

All trains on which this brake is fitted will be controlled by the driver only, except in cases of emergency, such as unusual stoppage or accident to train or engine.

Before starting, the driver must see that the gauge indicates at least 18 inches of vacuum, which must be maintained during the journey. The vacuum is created and retained by admitting steam to the small ejector. To apply the brake move the lever on the combination ejector to "ON." In ordinary running this lever must stand at "RUNNING POSITION." To release the brake move the lever to position "OFF." Before starting with the train the driver is to test the connecting pipes to see if they are properly coupled up, by turning steam into the ejector.

In cases of emergency, or when called by whistle to do so by the driver, the guard will apply the brake by pressing down the lever of valve in van; he will see that all pipes between carriages are properly coupled together, and that the coupling on the rear end coach is placed upon the dummy. He must also see by the gauge in his van that 18 inches of vacuum is maintained, and report, if otherwise, to the driver. The working of the automatic brake by the engineman will not relieve the guards from any responsibility. They must keep a good look out, and be prepared to apply the hand brakes should necessity arise.

In approaching all terminal stations, the train must be completely under control before the engine reaches the platform, so that a careful stop may be made by the hand brake of the engine only, but the guards must be prepared to assist with hand brakes in van if required. Should it be necessary for the driver to use the vacuum brake, a special report must be made detailing the circumstances. When the brake is to be used for ordinary stoppage of trains, it must be done by the driver opening the air valve on the engine gradually, not suddenly or with full force except in cases of emergency.

Shunters, porters, and others when connecting or disconnecting automatic brake pipes, must be careful not to have in their hands waste or anything that may be drawn into the pipes by the action of the vacuum. To release the brake for shunting purposes (the engine having left the train) they must first see that the hose coupling at one end of the train is off the dummy, then pull the chain which is fixed under the body of each carriage. They must also be careful in passing between vehicles not to step upon the brake pipes or interfere with the connections in any way. Whenever the hose pipes between the vehicles are disconnected the couplings must be placed upon the dummies.

JOHN BELL,
General Manager.

General Manager's Office,
32, Westbourne Terrace.
31st August 1892.

METROPOLITAN DISTRICT RAILWAY.

Instructions for working Trains during the Conversion from the Westinghouse Non-Automatic to the Westinghouse Automatic Brake.

General Explanation.

Trains fitted with the automatic brake (hereafter called "automatic trains"), can be distinguished by a white cross on the red painted end of the brake compartment, also by having a stop-cock between the iron brake pipe and the india-rubber hose pipe at each end of train, and a stop-cock in a wooden case and an air-pressure gauge in each guard's compartment.

The stop-cocks at the ends of trains next the engine and on the engines next the train must always be opened *after connecting the hose couplings and always closed before separating them.*

For all ordinary stops the brakes of the whole train will be applied and released by the driver from the engine.

If the brakes are applied by the accidental separation of the train or the breaking of a pipe, or from any leakage, they can be released by opening the release valves in the brake cylinder pipes; the chains by which these are released will be found under and attached to the top footboard of each carriage, where the footboard is notched to indicate their position.

Instructions to Drivers of Engines with Automatic Brakes.

The air in the main reservoir should be maintained at not less than 60 to 65 lbs. pressure.

When the engine is attached to a train the driver must see that the cocks at the ends of the brake pipes between the engine and train *are opened after the hose couplings are connected, the cock at the other end of the engine being kept shut.*

To work Automatic Trains.

After the engine is attached to the train, all the train reservoirs are charged by turning the handle of the driver's brake valve to the first position, with the handle *as far to the left* as it will go, for *about* 10 *seconds;* it is then brought to its second position, which is a very short distance more towards the driver, and it remains there while the train is running.

For ordinary stops the brakes should be applied lightly by turning the handle to the *right* and gently closing it again, after a reduction of the pressure in the brake pipe of *not less than 5 lbs. or more than* 8 *lbs.* has been made. If the pressure runs up on the gauge when the handle is brought back, it shows that the valve has been shut too quickly.

In ordinary working, the brakes are fully applied when the pressure in the brake pipe is reduced 25 lbs.; any further reduction is waste of air.

The brakes must always be eased off before coming to a dead stop, to avoid jerking the train.

In releasing the brakes the handle must be moved quite against the stop on the left side, *kept there about* 10 *seconds*, and then moved back to the second or running position, and left there until the brakes have again to be applied.

When approaching a terminus or a station where the train has to change engines, the air pressure in the engine main reservoir and in the whole train should be somewhat reduced, say 10 to 15 lbs. The driver of the engine that is to proceed with the train must see that he has the *full pressure* in his main reservoir before the engine is attached to the train.

Neglect of these precautions may cause delay, by the brakes not coming off freely before the train starts with the second engine.

Drivers upon feeling that the brakes have been applied by the guard or automatically *must at once turn the handle to the right*, thus preventing escape of air from the main reservoir.

To work Non-automatic Trains.

When running, the handle of the driver's brake valve must stand to the *right*, and must be gently moved towards the *left* to apply the brakes, and turned back to the *right* to release them, great care being taken not to apply the brakes too suddenly or to jerk the trains when stopping.

Instructions to Drivers of Engines with Non-Automatic Brakes.

The air in the main reservoir should be maintained at not less than 60 to 65 lbs. pressure.

To work Automatic Trains.

When the engine is attached to an automatic train the driver must see that the stop-cock on the brake pipe at the end of the train next the engine *is opened after the hose couplings are connected.*

The train reservoirs are charged with air by turning the handle of the three-way cock, at the back of the fire-box shell, towards the *right*, and it must remain in that position while the train is running.

For ordinary stops the brakes should be applied lightly by turning the handle to the *left* and closing it again gently to the right; it is not necessary to let all the air out of the brake pipe, except in cases of great emergency when a sudden stop has to be made.

The brakes must always be eased off before coming to a dead stop, to avoid jerking the train.

In releasing the brakes, the handle must be moved to the *right*, when the train reservoirs will again be charged, and the brakes will be in the position for running.

When approaching a terminus or a station where the train is to change engines, the air pressure in the engine main reservoir and in the whole train should be somewhat reduced, say 10 to 15 lbs.; the driver of the engine that is to proceed with the train must see that he has the *full pressure* in his main reservoir before the engine is attached to the train.

Neglect of these precautions may cause delay by the brakes not coming off freely before the train starts with the second engine.

Drivers upon feeling that the brakes have been applied by the guard or automatically *must at once turn the handle to the left*, thus preventing escape of air from the main reservoir.

To work Non-automatic Trains.

When running, the handle of the three-way cock must stand to the *left*, and must be gently moved towards the *right* to apply the brakes, and turned back to the *left* to release them, great care being taken not to apply the brakes too suddenly or to jerk the train when stopping.

George Estall,
Locomotive Superintendent.

Lillie Bridge Works,
22nd August 1890.

Special Instructions to Guards of Automatic Brake Trains.

Before leaving a terminus or when another engine is attached to the train, the head guard must ascertain that the hose couplings are connected and that the cocks in the brake pipe between the engine and train are open, by applying the brakes from his own van (by opening the air-cock and closing it again), and seeing that they are released by the driver from the engine.

Previous to starting a train from a terminus the head guard must, in addition, see that the air-cock at the tail end of the train is shut, by the handle being turned up to a vertical position or in a line with the iron pipe.

For all ordinary stops the brakes on the whole of the train will be applied and released by the driver from the engine, but in order to enable the guard at either end of the train to apply the brakes in case of emergency, each guard's brake-compartment will be provided with a stop-cock (enclosed in a wooden case), and either guard can, by opening this stop-cock and allowing the air to escape from the brake pipe, apply the brakes and stop the train. This stop-cock must be closed again before the brakes can be released.

Guards must in all cases screw the hand-brakes clear off before starting, but must observe the air-gauge in their compartment, and be prepared to use the hand-brake if the air-gauge shows that there is no pressure of air in the brake-pipe while running, thus indicating that the air-brake is not in working order.

Chains attached to the release valves in the brake cylinder pipes have been provided for the purpose of releasing the brakes by hand, should they be put on by the accidental separation of the train, or the breakage of a pipe or leakage of air. These chains are attached to the underneath side of the top footboard of each carriage, and the footboard is notched to indicate their position.

Alfred Powell,
Manager.

Parliament Mansions, S.W.,
22nd August 1890.

MIDLAND RAILWAY.

Vacuum Automatic Brake.

This brake can be applied throughout the train by the driver from his engine, or by the guard from his van.

Instructions to drivers. — Before starting from any station, see that your gauge indicates 20 inches of vacuum, and that not less than this amount is maintained during the journey, and while standing at stations.

To apply the brake, open the air valve on the engine.

To release the brake, close the air valve and restore the vacuum to the same amount as existed before the application.

When the engine is attached to the train and the brake pipes are connected, put on the small ejector, and keep it on while at the stations, and during the journey, in order that a constant vacuum may be maintained.

The brake must be applied steadily, which can always be done by opening the air valve gradually; but in a case of emergency the valve must be pulled open suddenly. The large ejector may be used to raise a vacuum rapidly, or when the brake requires to be taken off quickly; but in either case it must be closed gradually.

Instructions to guards. — After the engine is attached to the train or when an engine is changed or a pilot engine or any vehicle is attached or detached, the guard in charge must ascertain whether the brake is coupled up and in working order throughout the train, and between the train and the engine. This must be done by lifting the brake valve a *little* in the rear van, when, if there is an inrush of air through the valve, the brake will be all right; but if no inrush takes place, the guard must inform the driver that there is no vacuum in his van.

To apply the brake, lift up the valve, which will admit air throughout the brake pipe, but this is only to be done in a case of emergency. The valve opens automatically when the brake is applied with full force by the driver, and ensures rapid action. See that all pipes between the vehicles are properly coupled together, and that the coupling is on the stop plug at the rear of the train. See by your gauge that a vacuum of 20 inches is maintained, and report, if otherwise, to the driver.

The needle on the left-hand side of the gauge in the guard's van indicates the amount of vacuum in the brake pipe.

The needle on the right-hand side of this gauge indicates the amount of vacuum in the reservoir.

When the brake is applied fully, the needle on the eft-hand side will go to "O," and the needle on the right-hand side will only gradually go down as the vacuum in the reservoir leaks away.

In the event of a train becoming divided when going up a rising gradient, the guard must, in addition to turning the tap to the "remain-on" position, also apply his hand brake tightly, and take such other measures as may be necessary to prevent the vehicles from moving.

No guard or porter must leave the van with the handle of the tap at the "remain-on" position, except in a case of emergency, when it may be necessary to do so.

General Instructions.—Whenever the pipes between the vehicles are disconnected, the couplings must be placed upon the stop plugs at the end of the vehicles.

To couple the hose pipes the porter must take one in each hand and lift them sufficiently high to hook the bottom horns of the couplings together first, and then by lowering them, place the top horns of the couplings in the slots.

To uncouple the hose-pipes the porter must simply lift them straight up, when the horns at the top will come out of the slots, and the couplings will then separate. Porters, when coupling or uncoupling the pipes, must have their hands quite free from cotton waste or anything else that would be likely to be drawn into the pipes by the suction of the vacuum.

To release the brake for shunting purposes on vehicles fitted with ball valves (the engine having left the train) first see that the hose coupling at one end of the train is off the stop plug and then pull the release cord or wire which is fixed under the frame of each vehicle, the position of which is indicated by a small white star painted on the sole bars. This admits air to the top side of the cylinder, and the brake comes off by gravity.

When the release-cord or wire has to be pulled for the purpose of taking the brake off, it must always be held by hand until the brake comes off, and must never be fastened over.

Whenever the automatic vacuum brake pipes are not connected with each other, they must be placed upon the stop plugs at the ends of the vehicles.

Guards and others concerned must take care that articles are not placed in guards' vans in such a position as to be liable to come in contact with the brake lever.

Westinghouse Automatic and Continuous Air Brake.

Description and Instructions for Working.

Description.

The air used to apply the brake is compressed by a small engine and pump placed on the locomotive. The driver or any of the guards can apply the brake, *and it applies itself in the case of a break-away, or the failure of any of its vital parts.*

The engine, tender, and each of the vehicles of the train are fitted with the following parts:—(1) a triple valve, (2) a supplementary air reservoir, and (3) a cylinder with piston rods; the latter in connection with (4) the brake lever and blocks. Upon the engine a main reservoir also is fitted.

When a train is made up and ready to start, and also when it is running, compressed air stands at equal pressure in the pipe from end to end of the train, and in the triple valve and supplementary reservoir on each vehicle, but in the main reservoir the pressure is about 10 lbs. in excess of that in the train.

The brake is *applied* by a *decrease* of pressure in the main pipe. This causes the triple valves to move down, and to allow the air stored in the supplementary reservoirs to pass instantly into the cylinders, force out the pistons and rods, and cause the blocks to press against the tyres of the wheels.

The brake is *released* by an *increase* of pressure in the main pipe, by allowing air to pass from the main reservoir along the train. This moves the riple valves up, recharges the supplementary reservoirs, and at the same time allows the air which had forced out the pistons to escape into the atmosphere.

Instructions.

Drivers must see (1) that the top, or steam cylinder, is kept well lubricated, (2) that the air cylinder is sparingly lubricated with a small quantity of refined petroleum—*tallow or oil must not be used in the air cylinder*—(3) that the pump is *constantly run*, but never faster than is necessary to maintain the required air-pressure, and (4) *that air from 50 to 60 lbs. pressure for stopping trains and from 70 to 80 lbs. pressure for express trains*, is carried.

For ordinary stops the brake must be applied lightly, by opening the valve, and closing it gently when the pressure has been reduced from 4 to 8 lbs. on the gauge.

The brakes are fully applied when the pressure shown on the gauge is reduced 25 lbs. Any further reduction would be waste of air.

In releasing the brakes the handle must be moved quite against the stop and kept there for about ten seconds, and then moved back against the intermediate stop, which is the feed position, *where it must remain whilst the train is running.*

Drivers, upon feeling that the brakes have been applied by the guard, or automatically, must at once aid in stopping the train by turning the handle of the brake valve towards the right, thus preventing the escape of air from the main reservoir.

The blocks of the driving wheel brake must be so adjusted by turning the screw that the pistons move up from 3 to 4 inches.

Drivers must be careful to drain the water out of the main reservoir once a week, especially in winter time.

If vehicles having different air pressures be coupled together the brakes will apply themselves on those which have the highest pressure. To ensure the certain release of all the brakes on the train, and also that trains may be charged quickly, the driver must carry the maximum pressure in the main reservoir before connecting to a train, and then put the handle of his brake valve in the release position until the train is charged with air. If the brakes on the engine and tender thus apply themselves by being coupled to a train not charged they must be at once taken off by opening the release valves from the brake cylinders.

Guards.—After making up a train, after attaching or detaching any vehicle, or after another engine has been attached, the rear guard must ascertain whether the couplings are connected, and the cocks in the brake pipe are all open throughout the train, by applying the brakes from his van, and seeing that *they are released from the engine.* If the brake is not in use on the whole train, or if the van is not the last vehicle, the test must be made by opening the cock in the brake pipe of the last vehicle connected.

Guards, when they have occasion to apply the brake from their van, must open the tap and allow the air to escape until the train is brought to a standstill, but they must only use the brake in case of emergency. The tap in the van must again be closed when the train has come to a stand.

The pressure gauge in the van must be observed.

Guards must, in all cases, screw the *hand-brakes clear off* before starting.

General.—Before detaching the engine or any vehicle, the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or tap when the engine is away, may cause serious inconvenience in shunting. The pipes and joints must be kept tight, and when leaks are discovered they must be corrected, if serious, before the vehicle is again used.

The brake pipe has a tap at each end of every vehicle, all of which must be open when the hose couplings are united, except the one in the rear of the

train. *These taps must always be opened after connecting the hose couplings, and always closed before separating them.*

If the brakes are applied by the separation of the train, or the breaking of a pipe, they can be released by opening the small release valves or cocks in the brake cylinder or pipes leading thereto. If the brakes are applied after the engine has been disconnected, they can be released as above, or by again connecting to the engine.

The brake of any vehicle can be put out of operation without affecting the others, by closing the tap under that vehicle between the brake pipe and triple valve.

Care must be taken (1) that the brake connections are perfect, and properly adjusted for the wear of the blocks and wheels, by being *uniformly* taken up. The pistons of the double piston cylinders should each travel not less than two nor more than four inches; and those of the single piston cylinders should travel not less than four nor more than eight inches; (2) that the brake cylinders are perfect, and lubricated at least every three months with *mineral oil;* (3) that the hose couplings are united and the cocks in the pipes are open, that is, the handles must stand across or away from the pipe, except the one at the end of the train, which must lie along the pipe in the shut-off position; and (4) that the joints are all air-tight.

When there are upon a train any vehicles fitted with the Westinghouse brake, and that brake is not in use upon such vehicles, the handle of the tap at each end of each vehicle must be placed across or away from the pipe in order that the brake may be applied and the air let out of the main pipe; the air must then be allowed to escape from the cylinder by means of the release tap under the vehicles. This is necessary to avoid the brake leaking on and delaying the trains.

To enable the staff to readily ascertain whether the vehicles supplied with the Westinghouse brake pipe are fitted with the brake apparatus, or with the connecting pipes only, the cock at each end of all vehicles having connecting pipes only has been painted red.

Continuous Brakes.

Should it be necessary at any time to send goods guards or porter-guards in charge of the trains, in lieu of the ordinary guards, care must be taken to ascertain that they are conversant with the working of the continuous brake, and with the instructions in connection with it for the guidance of passenger guards.

Instructions to be observed by Guards working with Continuous Brake Trains, and with Trains worked by Engines fitted with Brakes on the Engine wheels as well as the Tender wheels.

When vehicles are supplied with connecting pipes only, they must be considered as vehicles without the brake.

When vehicles not fitted with a continuous brake, or having connecting pipes only, are attached to a train fitted with such brake, or to an engine having the brake on the engine wheels as well as the tender wheels, the guard in the rear van must, immediately upon the continuous or engine brake being applied by the driver, apply his hand brake and keep it tightly on, either until the train has come to a stand, or the driver has taken off his brake, and is again going onward, as the case may be. This arrangement is necessary to prevent the rebound of the vehicles and possible breaking of the draw bars, which may occur when a powerful brake is applied to the front portion of the train only.

When any vehicle or vehicles provided with connecting pipes only, are attached behind the rear van of a train fitted with either the automatic vacuum or the Westinghouse brake, the pipes must be connected in the same way as if such vehicle or vehicles were fitted with the brake.

Instructions to be observed by Carriage Washers.

During frosty weather carriage washers must not allow any wet to remain on the hose pipes or stop-plugs when washing the vehicles, as any water left upon the pipes and plugs would be liable to freeze, and cause inconvenience and delay in fixing the pipes on the plugs.

Continuous Brakes on Scotch Express Trains.

Several of the engines working Scotch express trains are fitted with the Westinghouse and the automatic vacuum brakes, and when a train is being worked by an engine fitted with both brakes, the guard in charge must ascertain whether there are on the train any vehicles fitted with one brake only, and if there are, the brake which can be applied on the greatest number of vehicles must be used, and the driver must be instructed accordingly.

Westinghouse and Automatic Vacuum Brake Hose Couplings.

When any of the engine or carriage hose couplings burst, or become defective, on the road, the driver must draw his train under the protection of the nearest fixed signals while the defective pipe is replaced or repaired by the fireman. In the case of a Westinghouse brake coupling becoming defective, a new one must be substituted for it, and burst or damaged automatic vacuum brake couplings must be wrapped with canvas and tarred string so as to cover the defect.

Padlocks for securing Automatic Vacuum Brake Valves in Brake Compartments of Midland City and Suburban Trains in which no Guard is riding.

A staple is fixed in each brake compartment of Midland city and suburban trains, under the lever of the automatic vacuum brake valve, a chain being attached to the lever, and guards are supplied with padlocks and keys for the purpose of fastening the lever to the staple by means of the chain, when no guard is riding in the brake compartment.

Guards will be held responsible for fastening the lever by padlock when necessary, and station-masters must, from time to time, satisfy themselves by personal observation that this instruction is carried out.

G. and S. W. Vehicles fitted with the Automatic Vacuum Ball-Valve Brake.

The position of the cord or wire for releasing the brake on G. and S. W. vehicles fitted with the automatic vacuum ball-valve brake is indicated by a **V.**

NORTH-EASTERN RAILWAY.

The Westinghouse Automatic Brake.

Description.

General Principle of its Action.

Compressed air is the power employed to work the brake. The air, compressed by an air pump on the engine into a main reservoir, flows through the driver's brake valve into the main brake pipe, which extends the whole length of the train, and fills under

each carriage a small reservoir by means of the triple valve attached to it. Each triple valve is also connected to a brake cylinder. As soon as the pressure in the brake pipe is lowered the triple valve piston under each vehicle is moved down by the greater pressure above it, stored in the small reservoir, and this pressure passes instantly into the cylinder, forces out the piston and rod, and thus causes the blocks to press against the wheels.

The brakes are released by an increase of pressure in the main pipe, produced by allowing air to pass from the main reservoir along the train. This moves up the triple valves, recharges the small reservoirs, and at the same time allows the air which had passed into the cylinders and forced out the pistons, to escape into the atmosphere.

Instructions as to its Proper Working.

Drivers.—The top or steam cylinder of the donkey-pump must be kept well lubricated with the best olive oil, by means of the lubricator only.

The small oil cup on the air cylinder must be filled once a week (and then only when the cylinder is cool) with paraffin. No other lubricant must be used.

The steam valve in communication with the donkey-pump must first be opened slightly until a small pressure of air is obtained, and then kept fully open whilst the engine is on duty. A governor is attached to the pump for the purpose of checking it when the standard pressure of 60 lbs. is obtained in the main pipe.

N.B.—The steam valve to the pump must only be shut off when oil has to be put into the lubricator.

The main reservoir must be drained once a week, and in frosty weather more frequently. The drip cup must be drained at least once every two days.

Pistons in short cylinders must not travel less than 2, or more than 4½ inches, and those in long cylinders not less than 3½ or more than 7 inches.

The driver is responsible for the connections between the engine and the first vehicle being perfect, and the cocks on the main pipe open.

Before and when attaching to a train the driver must see that his brake handle is in the feed position, and that he has the maximum pressure of air (60 lbs.) allowed in his main pipe, and that the tap below the driver's valve is open.

After the engine has been attached to the train (and also whilst standing at stations) the driver must keep his handle in the feed position so that whatever reductions are made by attaching, or the guard testing the train, he may be able to release the brakes when he gets the signal to start.

The driver must not put his handle into release position until after he receives the signal to start, and should the engine and tender brakes be on, the driver must release them by the cocks provided for that purpose.

When two or three attachments are to be made, the driver must be careful to put only a low pressure of air into the first and second portions, and after the third or last portion has been attached he must keep his handle in neutral position until he gets the signal to start; he must then place his handle in the release position and leave it there until the gauge shows a gradual increase of pressure.

To apply the brake the driver must lightly turn his handle to the right ("brake on" position) allowing not less than 5, or more than 8 lbs. of air to escape, and then gently close the valve again by placing the handle in neutral position. Should it be necessary for a driver to apply the brake immediately after releasing it, he must make a greater reduction from the main pipe than he did when first applying it. In fact he must allow the air to escape until he feels that the brakes are applied.

A reduction of 25 lbs. applies the brake with full force, but in cases of emergency the handle must be brought against the "brake full on" stop, and kept there until the train comes to rest.

If after a reduction has been made, the pressure runs up on the gauge, it shows the outflow of air has been too suddenly checked, and that probably some, if not all the brakes have come off again.

The driver's handle must not be put into release position before applying the brake, as it destroys the reserve pressure.

To avoid skidding the wheels, great care must be taken to apply the brake lightly for ordinary stops.

When stopping at stations the brake must be so applied that the train will be brought to rest without rebounding.

To release the brake the driver's handle must be put quickly over into release position, and kept there until the gauge shows a gradual increase of pressure, which indicates that the train is equally charged throughout; the handle must then be brought back into feed position.

The driver of a train running direct or backing into a platform with a buffer-stop at the end or to a platform where another train is standing, must do so cautiously, and at a proper distance from the place where the train has to come to a stand must test the continuous brake, and then run forward under the control of the hand brake only, not using the continuous brake except in case of emergency.

When approaching any principal station or junction where the train has to stop, and also when moving up to attach the engine to a train, the driver must not rely upon the continuous brake, but must so regulate the speed of his engine that the ordinary application of the hand brakes on the engine and tender will be sufficient to bring the train or engine to rest.

When working the brake with two engines coupled together, the driver of the leading engine must take charge of the brake, and work it as he would on an ordinary train, not considering the second engine except as a vehicle. Should the leading driver find any difficulty in getting the brake to go on, he should at once put his brake-handle into full on position and keep it there until the train comes to rest.

The driver of the second engine must shut the tap, which is fixed under the driver's valve, thus closing all communication between his main reservoir and train pipe, and this tap must be kept closed, and the brake handle kept in the neutral position until the first engine is uncoupled from the train, or it is necessary for him to apply the brake. Should, however, the second engine be fitted with the equalising driver's brake valve, the handle must be kept in full release instead of neutral position.

When the second engine has not a tap below the driver's valve, the driver must put his handle into neutral position and keep his pump working.

Should it be necessary for the driver of the second engine to apply the brake he must bring his handle into full on position and keep it there until the train comes to rest, but the tap below the valve must not be opened.

Should the leading engine be detached, the driver of the second engine must then take charge of, and work the brake in the usual way, but before he opens the tap, he must make himself sure that his main reservoir has been fully charged with the maximum pressure of air.

Should the driver discover any defect in the working of the brake which would render it ineffective, he must at once give the guard notice, and arrange with him as to the use of the hand-brake in the vans, if necessary.

The driver on finding that the brake has been applied by the guard, or automatically, must at once aid in stopping the train by putting the brake handle into neutral position, thus preventing any escape of air from the main reservoir.

Drivers must immediately report any failure or irregularity in the working of any part of the brake apparatus.

Drivers must be careful to prevent oil or grease coming in contact with the hose pipes and other

rubber connections and, when coupling the hose, must not bend one pipe more than the other.

Drivers will be held responsible for any unreported defect in the brake apparatus on any engine of which they may have had charge.

The Westinghouse brake on goods engines must only be used when working passenger trains.

Guards.—Before starting a train from a terminus, or from any place where an attachment or detachment has been made, guards must see that all the brake couplings are properly connected and the taps on the swan necks open; to ascertain that this is the case they must make a reduction of not less than 5 or more than 8 lbs. of air, by opening the tap in the van, but should the van not be the last vehicle the reduction must be made from the rear tap of the train.

This test must be made as soon as possible after the train has been made up.

When a guard has occasion to apply the brake from his van, he must open the tap provided for that purpose and allow the air to escape until the train is brought to rest. Any sudden opening or closing of the tap is likely to cause damage to the train. The guard must only apply the continuous brake in cases of emergency.

Guards must see that the taps in each van, and at the rear of the last vehicle of their train are shut before the engine is attached, so as to avoid any waste of air-pressure.

Guards must in all cases screw the hand-brake clear off and chain it before starting.

Each guard of the train must be on the look-out, and must make use of his hand-brake to assist the driver in stopping, and must also apply the continuous brake in case of emergency.

Guards must enter on their reports all cases of irregularity in the working of the brake, giving at the same time the number and description of the vehicle at fault, the number of the engine working the train, and when possible the nature of the failure.

The head guard of a train fitted with the Westinghouse brake, must, before starting, and at places where engines are changed, inform the engine driver what number of vehicles there are on the train, and must keep him advised when from any cause the brake cannot be worked upon the whole of the vehicles composing the train.

Carriage Brake Inspectors.—The carriage brake inspectors must see that the brake connections are perfect, the hose couplings properly united, and the cocks on the pipes open, except that at the rear of the last vehicle.

The brake blocks must be uniformly adjusted, so that the pistons of the brake cylinders do not travel too far, and all joints must be kept tight.

The brake cylinders, triple valves, and other parts of the brake apparatus must be carefully inspected, and attended to when necessary.

The carriage brake inspectors should see that the brake is in good working order on all vehicles of a train, by having the brake applied and released from the engine, and must inform the driver of the number of vehicles in the train on which the brake can be worked, and also the number of "piped" vehicles.

Brake Fitters.—When any part of the brake apparatus on an engine is reported by the driver as being out of order, the shed brake fitter must have it attended to, and the brake tested before the engine goes out again.

The brake apparatus on engines and tenders in regular working must be thoroughly examined by the shed brake fitters at least once a month, and on spare engines twice a month.

General.—Firemen, guards, shunters, and others who may detach an engine or vehicles from a train must first observe that the brake has been released from the engine, otherwise they will have to release the brake by hand, by pulling the wire attached to the release valve under each vehicle.

The tap at each end of every vehicle in a train, except that at the rear end of the last vehicle, must be opened directly after the hose couplings have been united; and before the pipes between any two vehicles are disconnected, the tap on each side must be closed.

Should it be necessary to put the brake out of operation on a vehicle, this must be done by closing the tap between the main pipe and triple valve under the vehicle. The 1-in. tap at the end of the main pipe must not be closed (unless there is a defect in the main pipe or couplings) as communication between the engine and those vehicles in the rear of the tap thus closed would thereby be stopped.

No person must be allowed to tamper with any of the taps in the train.

Hose couplings must not be pulled apart, but must be uncoupled by hand in the proper way.

H. Tennant,
York, July 1890. *General Manager.*

Vacuum Automatic Brake.

General Description.

This brake stops the train by the application of brake blocks to the tyres, in the same way as the ordinary hand brake. The levers, however, which apply the blocks, are moved by a piston, working in a cylinder, this piston deriving its power from the pressure of the atmosphere.

The brake is continuous, each vehicle carrying its own brake cylinder connected to a pipe, running from end to end of the train, and it is through this pipe that the action of the brake cylinders is controlled.

An ejector placed upon the engine exhausts the air out of the continuous pipe and each cylinder. The brake is applied by the admission of air into the train pipe, and released by the withdrawal of the same through the ejector.

The brake can be applied by the guard, and is self-acting in the case of an accidental parting of the train, or any damage happening to the brake itself.

Instructions as to its proper Working.

Drivers.—The ejector handle must first be placed in the "running" position, as marked on the disc; the steam valve attached to the boiler must then be opened and kept open as long as the brake is in use.

The small ejector steam cock must next be opened, gently at first, and then sufficiently to obtain at least 18 inches of vacuum. When the engine is attached to a train, this cock requires to be regulated, as to open it too much or too little will prevent the ejector making the required amount of vacuum.

The steam valve must be closed before lubricating the steam disc, which must only be done by unscrewing the small oil screw on the top of the ejector.

When the engine is working by itself the driver must see that each coupling is placed on the dummy plug near it, and when attaching to a train, that the pipes between the engine and first vehicle are properly coupled.

Before attaching or detaching vehicles, drivers must in all cases destroy the vacuum, by putting the brake full on, as otherwise the couplings cannot be separated or taken off the dummy plugs.

Drivers must move the handle gently in the direction marked "on" until from 5 in. to 10 in. of vacuum is destroyed, as shown by the gauge: this will apply the brakes with gentle force to the wheels. The pressure of the blocks on the wheels can be increased by letting more air into the main pipe, or decreased by bring the handle into such a position as to cause the small ejector to increase the vacuum.

Should the engine be fitted with the apparatus for working the brake on the train only, the Westinghouse brake must be applied on the engine before the vacuum is applied on the train.

In cases of emergency the handle must be put right over into "on" position and kept there until the train comes to rest.

To avoid skidding the wheels, great care must be taken to apply the brake lightly for ordinary stops.

To release the brake the handle must be put into "running" position, but should this not be rapid enough the handle must be pushed in the direction marked "off," and so admit steam to the large ejector, which creates vacuum more quickly.

When stopping at stations, the brake must be so applied that the train will be brought to rest without rebounding.

The driver of a train running direct or backing into a platform with a buffer-stop at the end or to a platform where another train is standing must do so cautiously, and at a proper distance from the place where the train has to come to a stand must test the continuous brake and then run forward under the control of the hand-brake only, not using the continuous brake except in case of emergency.

When approaching any principal station or junction where the train has to stop, and also when moving up to attach the engine to a train, the driver must not rely upon the continuous brake, but must so regulate the speed of his engine that the ordinary application of the hand brakes on the engine and tender will be sufficient to bring the train or engine to rest.

When working the brake with two engines coupled together the driver of the leading engine must take charge of the brake, and work it as he would on an ordinary train, not considering the second engine except as a vehicle.

Should the leading driver find any difficulty in getting the brake to go on, he should at once put his brake handle into "on" position and keep it there until the train comes to rest, according to the latter clause of Rule 5.

The driver of the second engine must keep the steam shut off from his ejector, and place the handle in "running" position, where it must remain so long as the brake is worked from the leading engine.

Should it be necessary for the driver of the second engine to apply the brake, he must put the handle right over into "on" position, and keep it there until the train comes to rest.

Should the leading engine be detached, the driver of the second engine must take charge of the brake and work it in the usual way.

Should the driver discover any defect in the working of the brake, which will render it ineffective, he must at once give the guard notice and arrange with him as to the use of the hand brake in the vans, if necessary.

The driver must see that the engine brake is kept properly adjusted, and must immediately report any failure or irregularity in the working of any part of the brake apparatus.

Drivers must be careful to prevent oil or grease coming in contact with the hose pipes, and other rubber connexions, and, when coupling the hose, must not bend one pipe more than the other.

Drivers will be held responsible for any unreported defect in the brake apparatus on any engine of which they may have had charge.

Guards.—Before starting from a terminus, or from any place where an attachment or detachment has been made, the guard must see that all the brake couplings are properly connected, and that the coupling at the rear of the last vehicle has been placed on the dummy plug provided for the purpose; he must also look at the gauge in the rear van, and see that it registers not less than 18 inches of vacuum.

When the guard has occasion to apply the brake from his van he must press down the handle of the valve and keep it open until the train comes to rest, but this must be done carefully, as a sudden opening of the valve may cause damage (the valve opens automatically when the brake is applied suddenly by the driver, and insures rapid action). The guard must only apply the continuous brake in cases of emergency.

Guards must in all cases screw the hand brake clear off and chain it before starting.

Each guard of the train must be on the look-out and must make use of his hand-brake to assist the driver in stopping and must also apply the continuous brake in case of emergency.

Guards must enter on their reports all cases of irregularity in the working of the brake, giving at the same time the number and description of the vehicle at fault, the number of the engine working the train, and when possible, the nature of the failure.

The head guard of a train fitted with the vacuum automatic brake must before starting, and at places where engines are changed, inform the engine driver what number of vehicles there are on the train, and must keep him advised when from any cause the brake cannot be worked upon the whole of the vehicles composing the train.

Carriage Brake Inspectors.—Carriage brake inspectors must see that the brake connexions are perfect, that the hose couplings are properly united, and that the hose pipe at the rear of the last vehicle is placed on the dummy plug provided for that purpose.

The brake blocks must be uniformly adjusted, so that the pistons of the brake cylinders do not travel too far, and all joints must be kept tight.

The brake cylinders, ball valves, and other parts of the apparatus must be carefully inspected and attended to when necessary.

The carriage brake inspector should see that the brake is in good working order on all vehicles of a train, by having the brake applied and released from the engine, and must inform the driver of the number of vehicles in the train on which the brake can be worked, and also the number of "piped" vehicles.

Brake Fitters.—When any part of the brake apparatus on an engine is reported by the driver as being out of order, the shed brake fitter must have it attended to and the brake tested before the engine goes out again.

The brake apparatus on engines and tenders in regular working must be thoroughly examined by the shed brake fitters at least once a month, and on spare engines twice a month.

General.—Firemen, guards, shunters, and others, who may have to detach an engine or vehicles from a train must first see that the brake is applied with full force by the driver, otherwise they will find great difficulty in separating the hose couplings.

When a train or vehicles have been detached from an engine, the disconnected coupling must not be placed on the dummy plug until all the brakes have been released, which must be done by pulling the wire (at either side of the vehicle) attached to the release valve.

After the brakes have been properly released the coupling must be placed on the dummy, as this keeps the internal parts free from dirt, &c.

H. TENNANT,
York, July 1890. *General Manager.*

NORTH LONDON RAILWAY.

INSTRUCTIONS FOR WORKING THE VACUUM AUTOMATIC BRAKE.

The Brake can be applied throughout the Train by the Driver from the Engine, or by the Guards from either Van.

Engine drivers.—Before starting, the driver must see that the gauge indicates *at least* 20 *inches of vacuum*, and that not less than 18 inches is *maintained* during the journey and while standing at stations. The vacuum is created by admitting steam to the small ejector by means of the steam valve on combination ejector.

The small ejector must be kept at work *continuously* to maintain the vacuum.

To apply the brake, move the handle on combination ejector in the direction marked "*Brake on.*"

To release the brake, move the handle in the direction marked "*Brake off.*"

In ordinary running this handle must stand at "*Running position.*"

The small ejector steam-valve must not be closed without first destroying the vacuum, by applying the brake.

The ejector drip pipe, and the drip valve on train pipe, must be kept clear and free from dirt.

When in the shed, the hose and train pipe under the engine should be examined, and if water is found within, it is a sign that the back stop valves in the ejector require attention.

The driver's vacuum gauge has two pointers, the one on the left marked "*Train pipe,*" and the one on the right "*Vacuum chamber,*" both indicating the vacuum carried.

A drip trap is placed at the lowest part of the train pipe, so that any moisture may drain into it. The valve at the bottom of this trap must be examined and cleaned every shed day.

Should the small ejector alone fail to maintain 20 inches vacuum the driver must report it, and call the attention of the shed foreman, who must put it right before the engine again goes out.

The driver must see that all hose-pipes between the carriages and the engine are properly coupled together, and that the coupling on the rear van is placed on the plug when the engine is detached.

Guards.—When the guard has occasion to apply the brake, he must press down the handle on the valve placed in the van. This admits air throughout the train pipe, and is only to be employed in *cases of emergency.* The valve in the van opens automatically when the brake is applied *suddenly* by the driver, and ensures rapid action. *Before starting* his train the guard must see, by the gauge in his van, that a vacuum of 20 *inches is maintained,* or report otherwise to the driver.

He will also be responsible (with the engineman) for seeing that all the hose-pipes between the carriages and the engine are properly coupled together, and that the coupling on the rear van is placed on the plug when the engine is detached, and also before starting the train.

The front guard must see that the hose-pipes between the front brake van and the engine are attached before starting the train.

In the event of a train parting, the guard in the rear portion must at once apply his hand brake, and keep it tightly on until the train is again coupled to the engine.

If the guards find it necessary to call the driver's attention to the fact that the vacuum is below 18 inches, they must do so by slightly applying the brake. This will immediately call the driver's attention to the state of the vacuum gauge.

Empty Trains Standing in Sidings.

After a train has been shunted and the train pipe detached from the engine, the wire under each coach must be pulled by the guards to allow the brake to run off; the train pipe coupling must then be replaced on the block, in order to exclude damp from the train pipes and cylinders.

This order does *not* apply to empty vacuum trains stabled in Devons Road sidings, which are under the care of the Carriage Department men as heretofore.

General Instructions.

To release the brake for shunting purposes (the engine having left the train), first see that the hose-coupling at one end of the train is off the plug, then pull the wire or cord fixed under the frame of each carriage. This admits air to the top side of the cylinder, and the brakes fall off.

To couple the pipes take one in each hand and lift them sufficiently high to hook the bottom horns of the couplings together first, and then by lowering them, place the top horns of the couplings in the slots.

To uncouple the pipes simply lift them straight up, when the horns at the top will come out of the slots and the couplings separate.

See that all the pipes, joints, and couplings are air-tight, that the levers are regularly adjusted (to allow for the wear of the blocks), and keep the blocks clear of the wheels.

See that the piston rods are kept clean. This should be done by wiping with a dry cloth. *No oil or grease must ever be used.*

Should the brake on any vehicle become disabled, or the piston stick, disconnect the piston rod of vacuum cylinder by removing the pin of brake shaft lever.

In the event of failure of the vacuum brake *on the engine,* the driver must at once whistle in the usual way for the brake, when it will be the duty of either guard (or both) to apply and hold down the vacuum brake handle in the van until the train is brought to a stand.

G. Bolland Newton,
General Manager.

Broad Street Station,
March 18th, 1892.

North Staffordshire Railway.

Vacuum Brake.

Instructions to Enginemen and Guards.

Description.—Each carriage and van is fitted with a vacuum brake, which can be applied by the driver only.

Small Vacuum.—As soon as a driver hooks on to the train, he must bring the vacuum gauge to "right," by a puff of the big ejector, and set the small ejector so as to constantly maintain the gauge in that position, whether running or standing.

Vacuum Brake.—The vacuum brake is applied by pulling the handle on the brake valve until the catch comes against the first stop.

To apply the steam brake on engine and tender as well as the vacuum brake on the train the handle must be pulled right over.

Steam Brake.—To apply the steam brake *only,* the handle on the brake-valve must be pushed to the end of slot, instead of pulled.

Enginemen are instructed that in all cases of ordinary stoppage they must shut off steam, and reduce the speed of their train at the usual place where they would do so with a train fitted with the ordinary hand brakes, and it must be clearly understood that they must not use the vacuum brake to its "*full extent,*" unless it is necessary to stop very quickly.

No excuse of the failure of the vacuum brake will be taken in cases of overshooting platforms.

Guards' Brakes.—Each van is fitted with a hand brake, to be applied by the guards in case the vacuum brake fails; should the vacuum not be maintained the bells in the guards' vans will ring and the indicators show WRONG.

The vacuum brakes throughout the train being under control of the driver, the use of the "*hand brake*" in the vans is not required in making an ordinary stop. But guards must be prepared to apply the "*hand brake*" immediately on its being called for by the driver's whistle.

The driver will before starting from a terminal station, and also before leaving any station where a vehicle has been attached or detached to the train, test the vacuum brake, and the guard in charge of the rear van must see that the indicator in his van shows "right," and signal the driver that it is so, by *showing*

him a white flag by day and a *white light by night*, which must be repeated by the driver giving a *hand signal* to the guard by day, and showing him a *white light by night.*

June 1884. *By Order.*

INSTRUCTIONS FOR WORKING THE AUTOMATIC VACUUM BRAKE.

Description.

The Automatic Vacuum Brake is continuous throughout the train, each vehicle carrying its own brake power. Should a train fitted with this brake become divided when running, the disconnexions of the hose-pipe will cause the brake to go on throughout each portion of the train.

The brake power available depends upon the amount of vacuum maintained by the driver, and not less than 18 inches vacuum must be maintained in the rear van of the train whilst in motion.

The brake is applied by the driver admitting air to the main train pipe, and this can also be accomplished in case of emergency by the guard pressing down the lever of the valve fixed on the iron pipe in the van.

When a sudden application of the brake is made by the driver the valve in each guard's van will open automatically, thereby admitting air to the main train pipe, thus ensuring a rapid application of the brake.

There is a gauge in each guard's van showing the amount of vacuum in the train pipe and in the reservoir underneath each carriage.

The brake is released by the driver re-creating the vacuum throughout the train, and when the engine is detached the brake can be released by pulling the wire which will be found underneath the carriage frame, and which must be held back until the brake is fully off. Care must be taken to see that the hose-pipe is taken off the plug at one end of the train.

Whenever the pipes between the vehicles are disconnected the couplings must be placed on the plug at each end of the vehicles.

Action of the Brake.

The engine having been hooked on to the train, and the hose couplings between the tender and the train, also those between the coaches connected, and the one at the end of the train placed upon the plug the driver will admit steam to the *large* ejector to exhaust the train pipe and cylinders to a vacuum of 22 inches, which must be maintained throughout the journey and whilst standing at stations, the small ejector only being used in case of the air pump failing to act.

To apply the brake the driver admits air to the train pipe by opening the brake-valve.

To release the brake the driver will close his brake-valve and admit steam to the large ejector.

When the brake is applied, the pressure of the brakes on the wheels may be increased or diminished at pleasure without removing them, and also without reducing the full reserve power which is always at command for an emergency stop.

Station stops should not be made by violent application of the brake, but by a destruction of vacuum of from 5 to 10 inches, which should be re-created slowly as the train comes to a stand, in order to prevent jerking at the end of the stop.

To apply the brake quickly the driver must open the brake-valve to the full extent.

The guard can apply the brake by pressing down the handle of the valve placed in the van, but this must only be done in extreme cases of emergency.

The guard must see whilst running or standing at stations that a vacuum of at least 18 inches is maintained in the van, or report otherwise to the driver.

It will be the duty of the guard to see that the couplings between the carriages are properly connected, and that the coupling of the last coach is placed on the plug.

To release the brake for shunting purposes (the engine having left the train) first see that the hose coupling at one end of the train is off the plug, then pull the wire underneath the frame of each carriage which must be held back until the brake is fully off.

W. D. PHILLIPPS,
Traffic Manager.

Stoke Station,
January 1890.

SOMERSET AND DORSET JOINT RAILWAY.

THE VACUUM AUTOMATIC BRAKE, COMBINED WITH STEAM BRAKE ON ENGINE.

This brake can be applied throughout the train by the driver from his engine, or by the guard from his van.

Drivers' Instructions.—Before starting, see that your gauge indicates 21 inches of vacuum. This is done by admitting steam to the small ejector by means of a steam cock placed for that purpose. The small ejector must always be kept working, whether attached to a train or not. To apply the brake, move the lever on the combination ejector to "brake on." In ordinary running this lever must stand at "running position." To release the brake, move the lever to position "brake off," and restore the vacuum to the same amount as before the application. When the vacuum is suddenly destroyed in the main pipe the brake is full "on." When separated from your train, see that the couplings are placed upon the dummies fixed for that purpose, and when attached to a train, that the pipes between engine and carriage are properly coupled up.

Guards' Instructions.—To apply the brake, press down the lever on the valve placed in the guard's van. This admits air throughout the train pipe, and is only to be employed in cases of emergency. This valve opens automatically when the brake is applied with full force by the driver, and ensures rapid action. See that all pipes between carriages are properly coupled together, and that the couplings on the end coaches are placed upon the dummies. See by your gauge that a vacuum of 21 inches is maintained. Report otherwise to driver.

General Instructions.—To release the brakes for shunting purposes (the engine having left the train), first see that the hose coupling at one end of the train is off the dummy, then pull the cord which is fixed under the body of each carriage, as indicated by the arrows. This admits air to the top side of the cylinder, and the brakes come off by gravity.

S. W. JOHNSON,
Loco. Superintendent.
R. A. DYKES,
Traffic Superintendent.

August 12th, 1885.

NOTICE to ENGINEMEN and FIREMEN.

Testing of Brake Apparatus on Engine and Tender.

It is the duty of enginemen in every instance, before taking their engine out of the shed, to test the brakes on both the engine and tender, as directed below, so as to satisfy themselves that they are in efficient working order.

Automatic Vacuum Brake.

Before leaving the shed or starting on a journey, the driver must test the action of both the large and small ejector, each in its turn separately, and satisfy himself that the joints of the pipes on the engine are tight, and the ejectors in working order. Should the fall of vacuum be very rapid, the joints must at once be examined to discover the leakage, and in order to draw out any water that may have accumulated in the engine or tender brake pipes, the engineman, both before leaving the shed and on his return at the end of his day's work, must take off the hosepipe coupling from the dummy and use the large ejector freely, which can be done by putting the handle over to "On." All drain valves and pipes in connection with the brake apparatus must be kept free and in working order.

Enginemen must always test the continuous brakes, and ascertain for themselves if they are in good working order when the engines are coupled up to the train, and immediately before starting on a journey.

S. W. Johnson,
Derby, Loco. Superintendent.
12th August 1885.

SOUTH-EASTERN RAILWAY.

Vacuum Continuous Brake as per Regulations of Act of Parliament, 1878.

Certain trains, as may be arranged, are now fitted with continuous air brakes, applied from the engine. The working of these by the enginemen will not relieve the guards from any responsibility. They must keep a good look-out, and apply the hand brakes should any necessity arise, as if the trains were not fitted with the continuous brake.

Brake-vans and carriages which are fitted with the continuous brake apparatus must be kept for use in the continuous brake trains, or as through carriages in branch trains in connection with the continuous brake trains, and any spare brake-vans and carriages which are fitted with the continuous brake apparatus must be worked up to Rotherhithe Road Carriage Depôt.

When vehicles fitted with a continuous air brake are left in sidings or at stations, the brake pipes of each vehicle must be coupled together, and not left hanging loose. Porters and others are cautioned that in passing between vehicles *they must not step upon the brake pipes*, nor in any way interfere with the connections.

General Instructions applying to trains worked by either Continuous Brake.

The hand brakes are always to be applied by the guards whenever the train is stopped by signal, or at any intermediate station, other than where appointed to call.

Station-masters, inspectors, and foremen must give special attention to the proper coupling of the continuous brake pipes, and make such arrangements as will prevent these pipes being in any way improperly used.

The guards must see that the pipes of the continuous brakes on their trains are properly coupled together before starting, and whenever any engine or vehicle is attached or detached; and they must, frequently during the journey, examine the pipes and ascertain they are in good order, and remain properly coupled together.

Guards are required to enter on their journals whether their trains were worked with the continuous brake, stating whether vacuum or automatic, also give full particulars of any defect, failure, or unsatisfactory working of the brake of their trains, or any portion of the fittings, couplings, &c.

Drivers must not depend on the brake until they have tested and found it to work properly. For this purpose they will test the brake before starting, and also wherever the engine is changed. Engine drivers must, before passing the distant signals for stations where the train has to be stopped, or at stations and junctions where the speed has to be reduced, try the brake to see that it is in good working order. Occasionally during the journey, and when descending sharp inclines, the continuous brake must be tried by the engine-driver to ensure it being in perfect working order.

CALEDONIAN RAILWAY.

Description and Instructions as to the working of Continuous Automatic High-pressure Air Brakes for Passenger Trains.

The Westinghouse System.

Description.

The air used to apply the brake is compressed by a small engine and pump placed on the locomotive. The driver or any of the guards can apply the brake, *and it applies itself in the case of a break-away, or the failure of any of its vital parts.*

The engine, tender, and each vehicle of the train is fitted with the following parts:—(1) a triple valve, (2) a supplementary air reservoir, and (3) a cylinder with piston-rods; the latter in connection with (4) the brake lever and blocks. Upon the engine a main reservoir also is fitted.

When a train is made up and ready to start, and also when it is running, compressed air stands at equal pressure in the pipe from end to end of the train, and in the triple valve and supplementary reservoir on each vehicle, but in the main reservoir the pressure is about 10 lbs. in excess of that in the train.

The brake is *applied* by a *decrease* of pressure in the main pipe. This causes the triple valve to move down, and to allow the air stored in the supplementary reservoirs to pass instantly into the cylinders, force out the pistons and rods, and cause the blocks to press against the tyres of the wheels.

The brake is *released* by an *increase* of pressure in the main pipe, by allowing air to pass from the main reservoir along the train. This moves the triple valves up, re-charges the supplementary reservoirs, and at the same time allows the air which had forced out the pistons to escape into the atmosphere.

Instructions.

Drivers must see (1) that the top or steam cylinder is kept well lubricated; (2) that the air cylinder is sparingly lubricated with a small quantity of paraffin *—tallow or oil must not be used in the air cylinder;* (3) that the pump shall be *constantly run*, but never faster than is necessary to maintain the required air pressure; and (4) *that air of 75 lbs. pressure is carried.*

For ordinary stops the brakes should be applied lightly by turning the handle of the driver's valve to the right, and gently closing it again, after a reduction of pressure in the brake pipe of not less than 5 lbs. nor more than 8 lbs. has been made. If the pressure runs up on the gauge when the handle is brought back, it shows that the valve has been shut too quickly.

Just before coming to a stand the brakes should be released, so as to avoid any jerk.

Drivers must exercise care and moderation in applying the brakes for ordinary stops, so as to bring their trains to rest without inconvenience to the passengers, and the brakes must not be used with more than half their full force, except in cases of emergency.

The brakes are fully applied when the pressure shown on the gauge is reduced 25 lbs. Any further reduction would be waste of air. *In case of emergency, however, the handle must be turned so as to let all the air in the brake pipe escape.*

Long trains require more careful handling than short trains, and a greater quantity of air must be discharged from the brake pipe to make the same reduction per square inch on the gauge.

In releasing the brakes the handle must be moved quite against the stop, and kept there for about *ten seconds*, and then moved back against the intermediate stop, which is the feed position, and *where it must remain whilst the train is running.*

Drivers, upon feeling that the brakes have been applied by the guard, or automatically, must at once aid in stopping the train by turning the handle of the brake valve towards the right, thus preventing escape of air from the main reservoir.

Drivers and firemen are *at all times* responsible for having the couplings between the engine and the first vehicle of the train properly connected, and for seeing that the cocks in the brake pipe are open; and before starting, and at intermediate stations where the composition of the train has been altered, they must ascertain from the guard the number and position of the brake-fitted vehicles connected with the engine, and be guided on the journey in the application of the brake accordingly. Also, before attaching to a train, the air must be raised to the full pressure at which it is to be worked during the journey, and, after attaching, the brakes must be applied with full pressure and taken off, in order to properly test the several pipes and connections. This operation to be repeated after the guard tests the brake from the van, to ensure all the brakes coming properly off.

Drivers must be careful to drain the water out of the main reservoir and drip cup once a week, especially in winter time.

If vehicles, having different air pressures, be coupled together, the brakes will apply themselves on those which have the highest pressure. Drivers should therefore, keep the handle of their brake valve in the neutral position until their train is all coupled up. To ensure the certain release of all the brakes in the train, and also that trains may be charged quickly, the driver must carry the maximum pressure in the main reservoir before connecting to a train, and then put the handle of his brake valve in the release position until the train is charged with air. If the brakes on the engine and tender thus apply themselves by being coupled to a train not charged, they should at once be taken off by opening the release valves from the brake cylinders.

When approaching *terminal stations*, particularly on *falling* gradients, *great care* must be exercised to have the train so under control with the air brake, that, if required, it can be stopped by the *tender hand brake only* before the engine *reaches* the *station buffers.* This must also be very carefully observed in the case of trains that arrive in *docks*, and behind other trains in through stations.

Pilot engines assisting in front must be coupled to the train engine as closely as practicable, and the driver of the leading engine must not put on steam until the steam of the train engine is on, whether this may be in starting or for the purpose of increasing the speed after the steam has been shut off, neither must the tender brake of the leading engine be applied until the train brake is on, and when it is applied, it must not be released until the train brakes are entirely off.

In all cases of two engines being coupled together and fitted with the Westinghouse brake, the brake couplings must be connected, and the driver of the leading engine take full control of the brake power of the train; and the driver's valve of the *train engine* must be placed and *remain in the neutral* position, so as to cut off the communication from the main reservoir of that engine to the train pipe.

The indicator on the train engine will then only show the pressure the leading engine is maintaining in the train pipe. It is essential that the *pressure* in the main reservoir of the *train engine* be *kept above* that in the *train pipe*, otherwise the brakes will apply themselves by air escaping from the train pipe past the driver's valve to this main reservoir.

The air pump of the train engine must, therefore, be kept slowly and steadily working, independent of the pressure shown on the indicator.

The driver of the train engine to take no action in the ordinary stoppages, but he must be, at all times, prepared to apply the brake in cases of emergency.

Guards. — Before starting, and at intermediate stations, where the composition of the train is altered, guards must, in order to guide them on the journey in the application of the brake, make themselves thoroughly aware, personally, of the number and position of the brake-fitted and pipe-fitted vehicles in the train, and must go forward to the driver and give him this information. When there is more than one guard with the train, this will be the duty of the head guard.

Guards must be prepared to apply their hand-brakes as efficiently as possible on being warned by the driver by whistle, and they must not be taken off until the driver gives the whistle "Brakes-off," or until all the vehicles of the train have completely come to a state of rest—including the rebound, if any, of the carriage buffers—and when the hand-brake is being released it must not be allowed to fly off, but must be taken off slowly.

In all cases of trains arriving at terminal stations and in docks, and behind other trains in through stations, guards must apply their hand brakes as far as is necessary to assist in stopping at the proper place.

Guards, when they have occasion to apply the continuous brake from their van, must open the tap and allow the air to escape until the train is brought to a stand, but they should only use the continuous brake in cases of emergency.

Guards must in all cases take the *hand brakes clear off* before starting.

General.—Testing of Brake.—To ensure that the carriages are properly connected, and that the stop-cocks between the engine and the rear vehicle of the train are all open, a test must be made before starting from a terminal station, and after any vehicles are attached or detached on the journey, and after a fresh engine is attached, in the following manner, viz.:—

The guard in charge will allow the air to escape from the tap in the rear van, until the pressure is reduced by at least 10 lbs., after which the pressure should again rise to at least 40 lbs., indicating that the pipes are properly connected and open throughout, and the guard must note the pressure in his journal.

If the air pressure does not rise, the guard will exhibit a red signal to the driver, and both driver and guard must then ascertain what is wrong, and, after putting it right, have the brake again tested.

When the pressure does rise, the guard will exhibit a white signal to the driver until it is acknowledged by the latter giving a signal by hand during the day and by a white light at night. The driver must thereafter apply the brake with full force from the engine, allow it to remain on for about 10 seconds, and then release it quickly. This is done to ensure that the brakes are properly released from all the vehicles after the test is made by the guard, and the

driver must not start the train until the white signal is given by the guard and acknowledged by him.

The test should be made five minutes before the departure of the train, and the signal for starting the train must not be given by the guard until this has been done.

The white and green signals must not be exhibited together.

Should there be a vehicle behind the rear brake van, air must be allowed to escape from the rear stop-cock of that vehicle sufficient to apply the brakes on the train, and, after this has been done, the test from the rear brake van, as described above must be made.

Cut-off Arrangement.—When necessary from any cause the brake of any vehicle can be put out of operation without affecting the working of the brake on the other vehicles of the train by closing the tap under the vehicle between its brake-pipe and triple valve.

When a driver or guard closes this tap, he must report the fact to the carriage examiner at the end of the journey, and the guard must note the same on his journal, giving number and class of vehicle, and reason for closing the tap.

It is the duty of the staff at stations where trains are made up, and where vehicles are attached or detached, to adjust the couplings and air pipes properly, and to be most particular in screwing all of the vehicles *tightly* together, and it is the duty of the fireman to attach the engine to the train before starting, and to detach it at the end of the journey. When the engine requires to be detached at any station for shunting purposes, it is the duty of the station staff to do so, and to do all attaching and detaching of the engine, except in cases of the staff being limited or otherwise engaged, when the fireman must perform the duty at the request of the person in charge. It is the duty of the fireman, when the engine is brought back to the train preparatory to starting, to attach it properly to the train.

Caledonian vehicles not fitted with the Westinghouse apparatus, but fitted with pipe for conveying air to the other vehicles of any train of which they may form a part, will be distinguished by having a *knob* on the handles of the cocks, which are on the main pipe at the ends of the vehicles, and must be carefully noted before starting trains from terminal stations, or intermediate stations where vehicles are attached or detached by the guard, who must inform the driver. The L. & N.W. vehicles so fitted have the end pipes painted red.

To prevent the valve in the guards' brake vans being tampered with, neither Company's servants (unless duly authorised) nor passengers must be allowed to travel in the brake vans, and those unoccupied must be locked up.

The main pipe is fitted with a stop-cock at the ends of each vehicle; the cocks are *open* when the handles are standing across or away from the pipe, and shut when the handles are up or alongside the pipe. *Upon no account must any train be started from a station without all of these cocks being open, except the cock on rear end of the last vehicle, and the one on the leading end of the front engine;* and when the train has to be separated for attaching or detaching, or taking off the engine, the stop-cocks where the separation is to take place *must be shut before* the flexible pipes are disconnected, and when the train is made up again the flexible pipes must be connected *before* the cocks are opened.

If the brakes are applied by the separation of the train, or the breaking of a pipe, they can be released by opening the small release valves in the brake cylinder or pipes leading thereto, which is done by pulling a wire attached to both sides of the frame of the carriage. If the brakes are applied after the engine has been disconnected, they can be released as above or by again connecting to the engine.

Before detaching the engine or any vehicles, the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or tap when the engine is away, may cause inconvenience in shunting. Under these circumstances, guards must give special attention to their hand brakes.

At stations where the composition of trains is altered, the staff must be careful to see that all the brakes are clear off, and no train must be allowed to leave with the air brakes on any part however slight. Drivers must stop if they feel the train is being retarded, and have the brakes properly released.

The pipes and joints must be tested with screw-key, where necessary, and kept air-tight, and, when leaks are discovered, they must be corrected, if serious, before the vehicle is again used.

The hose coupling, when not used for connecting the brake between two vehicles, must be attached to the hook provided.

Any defect occurring in the working of continuous brakes must be pointed out by the guards or drivers immediately on arrival at—

Carlisle,	Stirling,
Beattock,	Oban,
Carstairs,	Perth,
Edinburgh,	Dundee West,
Glasgow (Central),	Do. East,
Do. (Buchanan St.),	Forfar,
Gourock (week days),	Montrose,
Greenock (Sundays only),	Aberdeen.
Hamilton,	

to the carriage examiners at these stations.

In the event of a flexible pipe bursting on the journey, the guard will telegraph forward to the first carriage examining station to have a new pipe in readiness to replace the defective one. Any irregularities or special circumstances in the working of the brake, or defects in its action, must also be specially reported by the guard in charge, to his district superintendent, as well as on his guard's journal, giving every particular mentioned in the printed forms supplied for that purpose.

Carriage examiners should see (1) that the brake connexions are perfect and properly adjusted for the wear of the blocks and wheels by being uniformly taken up. The pistons of double piston cylinders should each travel not less than two, nor more than 3¼ inches. Those of single piston cylinders should travel not less than four nor more than 6½ inches. (2) that the brake cylinders are perfect and lubricated at least every three months with *paraffin oil*, and (3) that the couplings and other parts are tight, and (4) that they always have on hand, at a convenient place, one or more flexible pipes, with couplings fixed, ready to screw at once on to any vehicle that may require such.

Stop-Cock Handles on G. and S.-W. Plant.—All G. and S.-W. vehicles, with folding end doors, have the handles for the Westinghouse stop-cocks of the main pipe standing the reverse way to those on other vehicles.

Guards must state in their journals whether the train has been worked by the Westinghouse or vacuum brake.

The Vacuum Brake.

Description.

The vacuum used to apply the brake is produced by an ejector placed on the locomotive. This ejector is double, consisting of a large and a small one, the latter being placed inside the former. The large ejector is used for creating a vacuum, and the small one is worked continuously for maintaining the vacuum during the journey.

Each vehicle is fitted with—

1. A ball valve.
2. A supplementary reservoir, with
3. Diaphragm cylinder with piston rod or rods; these are connected.
4. With the brake levers and blocks.

When a train is made up and ready to start, and also when it is running, a vacuum not less than 18 ins. stands equally in the main pipe, from end to end of the train, and in the supplementary reservoir, and on each side of the diaphragm piston of the cylinder.

The brake is applied by admitting air to the train-pipe, and the bottom side of the diaphragm piston of the cylinder.

This causes the ball valve between the train-pipe and the top side of the diaphragm piston of the cylinder to seat itself, and retain the vacuum in the top of the cylinder, and in the supplementary reservoir communicating with it, thus allowing the atmospheric pressure in the train-pipe to act on the diaphragm piston and apply the brake.

The brake is released by again producing a vacuum in the train-pipe and the bottom side of the diaphragm piston of the cylinder by the driver applying the ejector; or when the engine is detached, by moving the lever on the sole bar of the carriage from "auto" to "release." Vehicles which do not have a lever for this purpose, or have not "release" marked on quadrant, are fitted with a wire or cord fixed under the body of the carriage which must be pulled, thus allowing air to enter the supplementary reservoir and top side of the diaphragm and destroy the vacuum.

Instructions.

Drivers.—Before starting, must see that the gauge indicates at least 18 inches of vacuum, and that not less than this amount is maintained during the journey, and while standing at stations. The vacuum is created by admitting steam to the small ejector by means of the steam cock on combination ejector; the small ejector must be kept at work continuously.

In order that engine drivers, before starting from stations with trains fitted with this brake, may know when the brake connections are complete, the guard will give a red hand signal when all is ready for the vacuum to be created. The driver must not open the ejector while trains are being coupled up, nor until the guard, by exhibiting this signal, indicates that he may do so.

When the proper amount of vacuum has been indicated on the train pipe gauge in the rear van, the guard will give a white hand signal, and afterwards test it by opening the valve; the driver will then re-create the vacuum.

In ordinary running, the handle of the combination ejector must stand at "running position."

Where two engines are attached to a train, the hose couplings between the engines must be connected, and the driver of the leading engine will be held responsible for the working of the brake.

It is the duty of the fireman, when the engine is attached to the train to connect the hose coupling on the engine to that on the train; and it is his duty when the engine is separated from the train to place the hose coupling of the front carriage on to the stopper provided for the purpose.

Guards.—Before starting from a terminal station, and at intermediate stations where the composition of the train is altered, must see that carriages fitted with lever on the sole-bar have such levers in the "auto." position, that the hose couplings are all connected, and that the one at the end of the train is placed upon the plug; and he must also inform the driver what brake-fitted and pipe-fitted vehicles are in the train.

To ensure that the brake is properly connected throughout the train, the following test must be made five minutes before the departure of the train from a terminal station, and after any vehicles are attached or detached on the journey, and after a fresh engine is attached, viz. :—

The guard in charge will exhibit a red signal to the driver, who in response will create the vacuum. If the train-pipe gauge in the rear van does not show 18 ins. of vacuum, the guard must continue to exhibit the red signal until the necessary vacuum is created. When the proper amount of vacuum has been created, the guard will give a white signal to the driver, and afterwards make a test by opening the emergency valve. The driver will then re-create the vacuum, and the guard must enter on his journal the amount of vacuum, which must not be less than 18 ins., and also record on his journal the amount of vacuum registered on the gauges occasionally during the journey.

When the guard has occasion to apply the brake he must open the emergency valve placed in his van and hold it open until the needle of the gauge goes back to zero. This is only to be employed in cases of emergency.

Guards must see that during the journey nothing is placed so near as to interfere with the lever of the emergency valve in the brake vans.

If, during the journey, the guard should notice anything wrong with the brake apparatus, or should the vacuum gauge show less than 18 inches, he must call the driver's attention by pulling the communication cord, and showing to the driver a green signal by hand lamp or flag. This will signify to the driver that the automatic brake must not be relied upon for pulling up the train at the next stopping station, and the guard must be prepared to assist the driver with his hand brake. In the case of trains not fitted with communication cord, the guard must apply his hand brake, when approaching the next stopping place, in sufficient time to bring the train to a stand at the platform without the aid of the vacuum brake, and must advise the driver of the state of the train pipe gauge in his van before proceeding.

In foggy weather the driver must bring the train to a stand immediately the cord is pulled.

Any irregularity or special circumstances in connection with the working of the brake, or defect in its action, must be reported by the guard in charge on his journal. The carriage examiners must be advised at the next stopping station.

The continuous brakes throughout the train being under the control of the driver, the use of the hand brake in the vans is not required for ordinary stops, but guards must apply the hand brake immediately on its being called for by the driver's whistle, *and must in all cases use their hand brakes to stop trains on approaching terminal stations, dock sidings, or principal stations, and must not rely on the drivers pulling up trains by means of the vacuum brake.*

When shunting has to be performed on a rising or falling gradient the guard must leave his hand brake on.

In case of a train becoming divided the guard in the rear van must put the hand brake hard on before going back to protect his train.

General.—Vehicles fitted with a lever on the sole-bar must have that lever placed at the "Automatic" side of quadrant, unless when turned to "Cut-off" or "Release" for shunting purposes. When the brake gear of such vehicles is out of order from leakage or any other cause, the lever on the sole-bar must be moved into the "cut-off" position. This will prevent the brake gear from working on that vehicle, but will not interfere with the brake on the remainder of the train.

Engines Nos. 83, 88, 89, 90, 91, and 113, stationed at Carlisle, and Nos. 410, 411, and 412, stationed at Polmadie, have been fitted, in addition to the Westinghouse brake for engine, with a combination ejector for working trains of foreign companies' carriages fitted with the vacuum brake.

When a train of foreign companies' stock, fitted with the vacuum automatic and not with the Westinghouse brake, has to be worked on any part of the line, one of these engines will be provided for it.

The end vacuum pipes of Caledonian vehicles which are fitted with vacuum pipes, but which have no brake apparatus operating on their wheels are painted a distinctive colour (red). The West Coast Joint Stock carriages and vans are fitted with the combined

Westinghouse and vacuum brakes, the former for working over this company's line, and the latter for London and North-Western line.

Through Trains.—Scotland and England.—Down Trains.—Trains which have been worked into Carlisle by London and North-Western engines must have the vacuum destroyed on each vehicle in the following manner before the train is taken forward by a Coledonian Westinghouse engine :—

1st. Remove the pipe of vacuum brake from stopper on the end of rear vehicle.
2nd. Turn the lever on the sole-bar from "auto." to "release," and seen that the brake blocks come off.
3rd. When vehicles have a *release wire* in addition to having "auto." and "release" on the sole-bar, *such wire must be pulled* as well as the lever put into the release position, in order to destroy the vacuum in both cylinder and reservoir.
4th. When the quadrant is not marked "release," the vacuum must be destroyed by pulling the release wire on that vehicle, and also seeing that the brake blocks come off.
5th. Replace the pipe on the stopper at the end of the rear vehicle.

Guards must see, before starting from Carlisle, that the vacuum has been destroyed by examining the vacuum indicators in the vans.

The London and North-Western Company's fireman will leave the vacuum pipe off the stopper when he uncouples his engine from the train; and the Caledonian Railway fireman must put the vacuum pipe on the stopper when he couples his engine on to the train.

When there are any vehicles to detach at Carlisle from the front of the train, the Citadel station shunter must leave the vacuum pipe off the stopper of the front vehicle for the Caledonian line in the same way as the London and North-Western Company's fireman is required to do in the other case.

Up Trains.—Trains going South must have all the levers on the sole-bars placed in the "auto." position of the quadrants when the train *arrives* at Carlisle. In order that this may be carried out, stationmasters must arrange for their staff putting the lever of each vacuum-fitted vehicle in the "auto." position and release wire pulled before it is despatched from their station.

Vehicles from the Highland line, fitted with the vacuum brake, and having a quadrant on the sole-bar, must have the vacuum destroyed in the same way as is done in the case of trains off the London and North-Western Railway.

Vehicles for Severn Tunnel Route.—Not more than two carriages not fitted with vacuum brake are permitted on any passenger train through the Severn Tunnel.

GLASGOW AND SOUTH-WESTERN RAILWAY.

Notice.

Westinghouse Continuous Brake.

Description and Instructions for Working.

Description.

The air used to apply the brake is compressed by a small engine and pump placed on the locomotive. The driver or any of the guards can apply the brake, *and it applies itself in the case of a break-away, or the failure of any of its vital parts.*

The engine, tender, and each of the vehicles of the train is fitted with the following parts :—(1) a triple valve, (2) a supplementary air reservoir, and (3) a cylinder with piston rods; the latter in connection with (4) the brake lever and blocks.

When a train is made up and ready to start, and also when it is running, compressed air stands at about equal pressure throughout its length, that is to say, in the main reservoir, in the pipe from end to end of the train, in the triple valve and supplementary reservoir on each vehicle.

The brake is *applied* by a *decrease* of pressure in the main pipe. This causes the triple valves to move down, and to allow the air stored in the supplementary reservoirs to pass instantly into the cylinders, force out the pistons and rods, and cause the blocks to press against the tyres of the wheels.

The brake is *released* by an *increase* of pressure in the main pipe, by allowing air to pass from the main reservoir along the train. This moves the triple valves up, recharges the supplementary reservoirs, and at the same time allows the air which had forced out the pistons to escape into the atmosphere.

Instructions.

Drivers must see (1) that the top, or steam cylinder is kept well lubricated, (2) that the air cylinder is sparingly lubricated with a small quantity of refined petroleum,—other oils or tallow *must not be used in the air cylinder*,—(3) that the pump shall be *constantly run*, but never faster than is necessary to maintain the required air pressure,—and (4) *that air from* 50 *to* 60 *pounds pressure for stopping trains, and from* 70 *to* 80 *pounds pressure for express trains*, is carried.

For ordinary stops the brakes should be applied *lightly* by turning the handle of the driver's valve to the right, and *gently* closing it again, after a reduction of pressure in the brake pipe of not less than 5 lbs., nor more than 8 lbs. has been made. If the pressure runs up on the gauge when the handle is brought back, it shows that the valve has been shut too quickly.

In ordinary working the brakes are fully applied when the pressure shown on the gauge is reduced 25 lbs. Any further reduction is waste of air. In case of emergency, however, the handle must be turned so as to let all the air in the brake pipe escape.

Long trains require more careful handling than short trains, and a greater quantity of air must be discharged from the brake pipe to make the same reduction per square inch on the gauge.

In releasing the brakes the handle must be moved quite against the stop to the left and kept there for about *ten seconds*, and then moved back against the intermediate stop, which is the feed position, and *where it must remain whilst the train is running.*

Drivers must always satisfy themselves that the brake coupling on their engine is properly connected to that on the train, and that the *cocks in the brake pipe are open.*

Drivers, upon feeling that the brakes have been applied by the guard, or automatically, must at once aid in stopping the train by turning the handle of the brake-valve towards the right, thus preventing escape of air from the main reservoir.

The blocks of the driving wheel brake should be so adjusted by turning the screw that the pistons travel from 3 to 4 inches.

Drivers must be careful to drain the water out of the main reservoir once a week, especially in winter time.

If vehicles having different air pressures be coupled together, the brakes will apply themselves on those which have the highest pressure. To ensure the certain release of all the brakes in the train, and also that trains may be charged quickly, the driver must carry the maximum pressure in the main reservoir before connecting to a train; and then put the handle of his brake-valve in the release position until the train is charged with air. If the brakes on the engine and tender thus apply themselves by being coupled

to a train not charged, they should at once be taken off by opening the release valves from the brake cylinders, which ought to be *so arranged as to be worked from the foot-plate.*

After connecting the engine to the train, or after new vehicles have been added, the pipes and reservoirs are to be charged as quickly as possible.

Guards.—Before leaving the terminus, after adding to or detaching from a train on the journey, or on another engine being attached, the rear guard shall ascertain whether the couplings are connected, and the cocks in the brake pipe are all open throughout the train, by applying the brakes from his van and seeing that *they are released from the engine.* If the brake is not in use on the whole train, or if the van is not the last vehicle, the test should be made by opening the cock in the brake pipe of the last vehicle connected.

Guards, when they have occasion to apply the brake from their van, must open the tap and allow the air to escape until the train is brought to a standstill, but they should only use the brake in cases of emergency.

Guards must, in all cases, screw the *hand brakes clear off* before starting,

General.—Before detaching the engine or any carriages the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or tap when the engine is away, may cause serious inconvenience in shunting. The pipes and joints must be kept tight, and when leaks are discovered they should be corrected, if serious, before the vehicle is again used.

The brake pipe has a tap at each end of every vehicle, all of which must be open when the couplings are united except the one at the rear of the train. *These taps must always be opened after connecting the hose couplings, and always closed before separating them.*

If the brakes are applied by the separation of the train, or the breaking of a pipe, they can be released by opening the small release valves in the brake cylinder or pipes leading thereto. If the brakes are applied after the engine has been disconnected, they can be released as above, or by again connecting to the engine.

The brake of any vehicle can be put out of operation, without affecting the others, by closing the tap under that vehicle between the brake pipe and triple valve.

Inspectors should see (1) that the brake connections are perfect and properly adjusted for the wear of the blocks and wheels by being *uniformly* taken up. The pistons of double-piston cylinders should each travel not less than 2 nor more than 4 inches. Those of single-piston cylinders should not travel less than 4 nor more than 8 inches. (2) That the brake cylinders are perfect, and lubricated at least every three months with *mineral oil.* (3) That the hose couplings are united, and the cocks in the pipes are open; that is, the handles must stand across or away from the pipe, except the one at the end of the train, which must lie along the pipe in the shut-off position. (4) That the joints are all air tight.

Note.—No. 3 *refers to traffic platform inspector or foreman, who will also see that the hose coupling, when not used for connecting the brake between two vehicles, must be attached to the dummy coupling.*

Drivers and guards must at all times arrange to control their trains in approaching terminal stations by the ordinary hand brakes upon the tenders and brake vans, so as not to require the use of the air brakes, unless as an emergency brake, at such place.

W. J. Wainwright,
General Manager.

Glasgow,
26th December 1881.

The Vacuum Automatic Brake.

This brake can be applied throughout the train by the driver from his engine, or by the guard from his van.

Driver's Instructions.—Before starting see that your gauge indicates at least 18 inches of vacuum. This is done by admitting steam to the small ejector by means of a steam-cock placed for that purpose. To apply the brake, move the lever on the combination ejector to "On." In ordinary running this lever must stand at "Running position." To release the brake, move the lever to position "Off." *When the vacuum is suddenly destroyed in the main pipe the brake is full* "On." When separated from your train see that the couplings are placed upon the dummies fixed for that purpose.

Guard's Instructions.—To apply the brake, press down the lever on the valve placed in the guard's van. This admits air throughout the train pipe, and is to be only employed in cases of emergency. This valve opens automatically when the brake is applied with full force by the driver, and ensures rapid action. See that all pipes between carriages are properly coupled together, and that the couplings on the end coaches are placed upon the dummies. See by your gauge that a vacuum of 18 inches is maintained. Report otherwise to driver.

General Instructions.—To release the brakes for shunting purposes (the engine having left the train), first see that the hose coupling at one end of the train is off the dummy, then pull the cord which is fixed under the body of each carriage, as indicated by the arrows. This admits air to the top side of the cylinder, and the brakes come off by gravity.

GREAT NORTH OF SCOTLAND.

Westinghouse Continuous Brake.

Description and Instructions for Working.

Description.

The air used to apply the brake is compressed by a small engine and pump placed on the locomotive. The driver or any of the guards can apply the brake. *and it applies itself in the case of a break-away, or the failure of any of its vital parts.*

The engine, tender, and each of the vehicles of the train is fitted with the following parts: (1) a triple valve, (2) a supplementary air-reservoir, and (3) a cylinder with piston-rods, the latter in connexion with (4) the brake-lever and blocks.

When a train is made up and ready to start, and also when it is running, compressed air stands at equal pressure throughout its length, that is to say, in the main reservoir, in the pipe from end to end of the train, in the triple valve and supplementary reservoir on each vehicle.

The brake is *applied* by a *decrease* of pressure in the main pipe. This causes the triple valves to move down, and to allow the air stored in the supplementary reservoirs to pass instantly into the cylinders, force out the pistons and rods, and cause the blocks to press against the tyres of the wheels.

The brake is *released* by an *increase* of pressure in the main pipe, by allowing air to pass from the main reservoir along the train. This moves the triple valves up, recharges the supplementary reservoirs, and at the same time allows the air which had forced out the pistons to escape into the atmosphere.

Instructions.

Drivers must see (1) that the top or steam cylinder is kept well lubricated; (2) that the air cylinder is sparingly lubricated with a small quantity of refined petroleum—*tallow or oil must not be used in the air cylinder*; (3) that the pumps shall be *constantly run*, but never faster than is necessary to maintain the required air-pressure; and (4) *that air from 50 to 60 pounds pressure for stopping trains, and from 70 to 80 pounds pressure for express trains*, is carried.

For ordinary stops the brakes should be applied lightly, by opening the valve and closing it gently when the pressure has been reduced from 4 to 8 lbs. on the gauge.

The brakes are fully applied when the pressure shown on the gauge is reduced 25 lbs. Any further reduction would be waste of air.

In releasing the brakes the handle must be moved quite against the stop, and kept there for about 10 seconds, and then moved back against the intermediate stop, which is the feed position, and *where it must remain whilst the train is running.*

Drivers, upon feeling that the brakes have been applied by the guard or automatically, must at once aid in stopping the train by turning the handle of the brake-valve towards the right, thus preventing escape of air from the main reservoir.

The blocks of the driving-wheel brake should be so adjusted, by turning the screw, that the pistons move up from 3 to 4 inches.

Drivers must be careful to drain the water out of the main reservoir once a week, especially in winter time. If vehicles having different air-pressures be coupled together, the brakes will apply themselves on those which have the highest pressure. To ensure the certain release of all the brakes in the train and also that trains may be charged quickly, the driver must carry the maximum pressure in the main reservoir before connecting to a train, and then put the handle of his brake-valve in the release position until the train is charged with air. If the brakes on the engine and tender thus apply themselves by being coupled to a train not charged, they should at once be taken off by opening the release-valves from the brake cylinders, which ought to be *so arranged as to be worked from the foot plate.*

Guards.—Before leaving the terminus, after adding to a train on the journey, or on another engine being attached, the rear guard shall ascertain whether the couplings are connected, and the cocks in the brake-pipe are all open throughout the train, by applying the brakes from his van and seeing that they are released from the engine. If the brake is not in use on the whole train, or if the van is not the last vehicle, the test must be made by opening the cock in the brake-pipe at the rear of the last vehicle connected.

The hose coupling, when not used for connecting the brake between two vehicles, must be attached to the dummy coupling. It is important to observe that the taps at the ends of the vehicles are open when the handles stand across or away from the line of pipes, and closed when parallel to or alongside the pipe.

Guards, when they have occasion to apply the brake from their van, must open the tap and allow the air to escape until the train is brought to a standstill, but they should only use the brake in cases of emergency.

Guards must in all cases screw the *hand brakes clear off* before starting.

General.—Before detaching the engine or any carriages, the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or tap when the engine is away, may cause serious inconvenience in shunting. The pipes and joints must be kept tight, and when leaks are discovered they should be corrected, if serious, before the vehicle is again used.

If the brakes are applied by the separation of the train, or the breaking of a pipe, they can be released by opening the small release valves in the brake cylinder, or pipes leading thereto. If the brakes are applied after the engine has been disconnected, they can be released as above, or by again connecting to the engine.

The brakes of any vehicles can be put out of operation, without affecting the others, by closing the taps under those vehicles, between the brake-pipe and triple valve.

Inspectors should see (1) that the brake connexions are perfect, and properly adjusted for the wear of the blocks and wheels by being uniformly taken up. The pistons of double-piston cylinders should each travel not less than 2 nor more than 4 inches. Those of single-piston cylinders should travel not less than 4 nor more than 8 inches. (2) That the brake-cylinders are perfect, and lubricated at least every six months with *mineral oil*; and (3) that the couplings and other parts are tight.

Special Notes.

When vehicles not fitted with a continuous brake, or having connecting-pipes only, are attached to a train fitted with such brake, or to an engine having the brake on the engine wheels as well as the tender wheels, the guard in the rear van must, immediately upon the continuous or engine brake being applied by the driver, apply his hand-brake, and keep it tightly on either until the train has come to a stand or the driver has taken off his brake and is again going forward, as the case may be. This arrangement is necessary to prevent the rebound of the carriages and possible breaking of the drawbars, which may occur when a powerful brake is applied to the front portion of the train only.

Drivers and guards must at all times arranye to control their trains in approaching terminal stations by the ordinary hand brakes upon the tenders and brake vans, so as not to require the use of the air brake unless as an emergency brake at such places.

NORTH BRITISH RAILWAY.

Westinghouse Automatic and Continuous Brake.

Description.

1. Compressed air is the agent employed to apply the brake. The air is compressed by a small engine and pump placed on the locomotive. The driver or any of the guards can apply the brake, *and it applies itself in the case of a break-away, or the failure of any of its vital parts.*

2. The tender and each of the vehicles of the train are fitted with the following parts:—(1) a triple valve, (2) a supplementary air reservoir, and (3), a cylinder with piston rod; the latter in connection with (4) the brake lever and blocks.

3. When a train is made up and ready to start, and also when it is running, compressed air stands at equal pressure throughout its length, that is to say, in the main reservoir, in the pipe from end to end of the train, and in the triple valve and supplementary reservoir on each vehicle.

4. To apply the brake, air is allowed by the driver to escape, or, in an emergency, by any of the guards. This causes the triple valves to move down, the air stored in the supplementary reservoirs to pass instantly into the cylinders, the pistons and rods to be forced out, and the blocks to press against the tyres of the wheels.

5. To release the blocks from the wheels, air is allowed to pass from the main reservoir along the train. This moves the triple valves up, recharges the supplementary reservoirs, and at the same time allows the air which had forced out the pistons to escape into the atmosphere.

INSTRUCTIONS.

6. *Drivers* must see (1) that the steam cylinder is kept well lubricated, (2) that the air pump is sparingly lubricated with a small quantity of mineral oil,—tallow or lard oil must not be used in the air pump,—(3) that the pump is constantly run, but *never faster than is necessary to maintain the required air pressure*,—and (4) *that air of about sixty pounds pressure is carried.*

7. The brakes must not be used with more than half the full force, except in case of danger.

8. The brakes are fully set when the pressure shown on the gauge is reduced 25 lbs. Any further reduction would be waste of air.

9. To apply the brakes lightly, the tap must be partially opened and *gently* closed when the pressure has been reduced from 4 to 8 lbs.

10. In releasing the brakes the handle must be moved against the stop and kept there for about five seconds, and then moved back just far enough to stop the escape of air from the top of the tap.

11. Drivers, upon feeling the brakes are applied, must at once aid in stopping the train by turning the three-way cock and preventing escape of air from the main reservoir.

12. The blocks of the driving wheels must be so adjusted by turning the screw that the pistons only move up from 3 to 4 inches.

13. Drivers are hereby reminded of the following rule, as contained at page 141 of the book of rules and regulations, viz. :—

> Rule 267*a*. It is the duty of the engine-driver of a train provided with a continuous brake, before starting the train, and at places where the engines are changed, to ascertain from the head guard the number of vehicles there are on the train, and upon how many of them the brake can be applied, and when any vehicles are attached or detached on the journey, the engine-driver must ascertain whether the attaching or detaching of such vehicles will interfere with the working of the brake on the whole or a portion of the train, and if the latter, to what extent.

This rule does not apply to trains made up entirely of vehicles fitted with a continuous brake running daily with the formation unaltered and the brake complete. When, however, in such cases the formation is altered, or vehicles are attached or detached, the guard and the engine-driver must communicate with each other.

14. *Guards.*—On all trains provided with a continuous brake where there are more than one guard, the guard riding in the rear van for the time being will be held to be the head guard.

15. In order to prove whether the continuous brake is connected throughout, the guard in the rear van must, after the engine has been coupled on to the train, examine the pressure in the gauge, at the same time lifting the handle of the valve and ascertaining that air escapes. If the brake is not in use on every vehicle in the train, or, if the van is not the last vehicle, the test must be made by opening the cock in the brake pipe of the last vehicle connected, which must be one having the *brake apparatus complete.* (See clause 2.) These tests must be made on the following occasions :—(1) Before commencing the journey—invariably whether the train starts from a terminal or roadside station ; (2) On the journey—invariably whenever vehicles are added to or taken off the train or any change is made in the engine or the engine is reversed.

16. Guards, when they have occasion to apply the continuous brake from a van, must hold the handle and allow the air to escape until the train is brought to a standstill, but must only use the brake in case of emergency.

17. When any vehicles not fitted with a continuous brake, or having connecting pipes only, are attached to a train fitted with such brake, the guard in the rear van must immediately, upon the continuous brake being applied by the driver, apply his hand brake and keep it tightly on, either until the train has come to a stand, or the driver has taken off the continuous brake, and is again going forward, as the case may be. This arrangement is necessary to prevent the rebound of the carriages, which may occur with trains composed of vehicles when only partially fitted with continuous brake.

18. Guards must, in all cases, screw the hand-brakes clear off before starting.

19. Guards are hereby reminded of the following rule as contained at page 123 of the book of rules and regulations, viz. :—

> Rule 235*a*. The head guard of a train provided with a continuous brake must, before starting the train and at places where the engines are changed, inform the engine-driver the number of vehicles there are on the train and upon how many of them the brake can be applied; and when any vehicles are attached or detached on the journey, the engine-driver must be advised, and told whether the attaching or detaching of such vehicles will interfere with the working of the brake on the whole or a portion of the train, and if the latter, to what extent.

This rule does not apply to trains made up entirely of vehicles fitted with a continuous brake running daily with the formation unaltered and the brake complete. When, however, in such cases the formation is altered, or vehicles are attached or detached, the guard and the engine-driver must communicate with each other.

20. *General.*—Before detaching the engine, the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or tap when the engine is away, may cause serious inconvenience in shunting. The pipes and joints must be kept tight, and when leaks are discovered they must be corrected, if serious, before the vehicle is again used.

21. The brake pipe has a tap at each end of every vehicle, all of which taps should be open when the hose couplings are united, except the one at the rear of the train. These taps must always be opened *after* connecting the hose couplings and closed *before* separating them.

22. If the brakes are applied by the separation of the train, or the breaking of a pipe, they can be released by opening the small taps in the brake cylinder or pipes leading thereto. These taps, after the release of the brakes, must be closed. If the brakes are applied after the engine has been disconnected, they can be released as above, or by again connecting.

23. It is important to observe that the taps at the ends of the vehicles are open when the handles stand across, or away from the line of pipe, and closed when parallel to, or alongside, the pipe.

24. When the handle of the tap of the triple valve stands across, or away from the valve, it is set for the automatic brake. When against the stop at an angle of 45°, the brake is thrown out of use on the carriage.

25. Care must be taken (1) that the brake connections are perfect and properly adjusted for the wear of the blocks and wheels, (2) that the brake cylinders are perfect and lubricated occasionally with *mineral oil*, and (3) that the couplings and other parts are tight.

Application of Westinghouse Brake.

The attention of engine-drivers and firemen is specially called to the following Standard Instructions issued by the Westinghouse Brake Company :—

> "Engine-drivers must exercise care and moderation in applying the brakes for ordinary stops, so as to bring their trains to rest without inconvenience to the passengers and to avoid damage to couplings.

"To ensure this, it is necessary that the brakes should be applied moderately in the first instance at a distance of several hundred yards from the station. *Just before coming to a stand the brakes should be released*, so as to avoid any jerk, and the *hand brake* on engine or tender must be applied *to stop* and hold *the train*."

Engine-drivers and firemen are requested to carry out these instructions carefully; any failure to comply therewith will be seriously noticed.

Vehicles Fitted with Westinghouse Automatic and Continuous Brake Appliances.

As far as possible, vehicles with the Westinghouse brake fittings must compose those trains which are worked by engines having the Westinghouse brake appliances attached, *a preference being always given to express and fast trains, which must, when practicable, be formed entirely of such vehicles.*

It is not intended that any train shall be composed partly of Westinghouse brake carriages and partly of other carriages, but it is meant that the trains shall be made up entirely of either one or the other kind of stock, so that the Westinghouse brake trains may always be complete. But, in cases where there may not be sufficient vehicles with the necessary fittings to compose the whole train, it is desirable that those with the Westinghouse brake be placed continuously next to the engine, so that the largest possible measure of brake power may be available.

Westinghouse brake carriages must not, except from unavoidable circumstances, be run upon trains whose engines are not fitted with the Westinghouse brake. Whenever it happens that Westinghouse brake carriages must be so used, the station-master attaching such carriages must report the case to the General Superintendent's office, giving the reasons why such was done; and the guards must also note the fact specially in their train reports, mentioning how many Westinghouse vehicles were on their train.

BELFAST AND NORTHERN COUNTIES RAILWAY.

Arrangements for working Vacuum Automatic Brakes.

All trains working with the automatic brake are to be controlled by drivers only. The guards are not to apply these brakes except in cases of emergency.

When entering terminal stations these brakes will not be used; it will, therefore, be necessary for the drivers and guards to use the hand-brakes, as they have formerly been in the habit of doing.

Before starting, the vacuum gauges in engine and brake-van must indicate a vacuum of at least 15 inches, and this vacuum must be constantly maintained, excepting, of course, when air is admitted to apply the brakes.

On arrival at a terminal or other station where the vehicles are to be shunted or taken on by an engine not fitted with the automatic brake, it will be necessary to go to each vehicle in turn to leak the brakes off by pulling the wire placed under the frames for that purpose, before the vehicles can be moved.

The driver of a train provided with continuous brakes must be informed by the guard before starting, and at places where engines are changed, how many vehicles there are on the train, and upon how many of them the brake can be applied; and when any vehicles are attached on the journey the driver must be told whether the attaching of such vehicles will interfere with the working of the brake on the whole or any portion of the train, and if the latter, to what extent. The driver must see he gets this information.

When vehicles are supplied with connecting pipes only they must be considered as vehicles without brakes.

When vehicles not fitted with the continuous brake, or having connecting pipes only, are attached in rear of a train fitted with such brake, the guard in the rear van of such portion must, immediately upon the continuous brake being applied, apply his hand-brake, and keep it tightly on either until the train has come to a stand, or the driver has taken off the continuous brake, as the case may be. This arrangement is necessary to prevent the rebound of the carriages and possible breakage of drawbars, which may occur when a powerful brake is applied to the front portion of a train only. Vehicles fitted with connecting pipe only should, when possible, be placed between the engine and carriages, or as near the engine as possible.

It is the guard's duty before starting to see that all pipes between the vehicles are properly coupled together, and that the pipe at rear of last vehicle is placed on the iron plug fixed for that purpose to the train pipe.

Guards and drivers must report all irregularities in the working of trains fitted with the automatic vacuum brake.

Guards to note in journal, and drivers to note on mileage sheets trains worked with continuous brakes.

CAVAN, LEITRIM, AND ROSCOMMON LIGHT RAILWAY AND TRAMWAY.

Instructions for Working the Automatic Vacuum Brake.

The brake can be applied throughout the train by the driver from the engine or by the guard from the van.

Creating Vacuum.—The engine having been coupled to the train and the hose coupling between the tender and train, also those between the vehicles connected and the one at the end of the train placed upon the plug, the driver admits steam to the small ejector which will soon exhaust the train pipe and cylinders, to a vacuum of 20 to 24 inches, or the large ejector may be used if the vacuum is required to be obtained more rapidly. The small ejector must be kept at work continuously to maintain the vacuum.

Before starting the driver must see that the gauge indicates at least 18 inches of vacuum, and that not less than this amount is maintained during the journey and while standing at stations. The vacuum is created by admitting steam to the small ejector, by means of the steam cock on combination ejector.

To apply the brake, move the handle on combination ejector in the direction marked "Brake on."

To release the brake, move the handle on combination ejector in the direction marked "Brake off."

In ordinary running this handle must stand at "Running Position."

When the guard has occasion to apply the brake, he must press down the handle on the valve placed in his van. This admits air throughout the train pipe, and is only to be employed in cases of emergency. The valve in the van opens automatically when the brake is applied suddenly by the driver, and ensures rapid action. The guard must see by the gauge in his van that a vacuum of at least 18 inches is maintained, or report otherwise to the driver. He must also see that all pipes between the carriages and engine are properly coupled together, and that the coupling on the last vehicle is placed upon the plug.

Whenever the pipes between the vehicles are disconnected the coupling must be placed upon the stop plug at the end of the vehicle.

To release the brake for shunting purposes (the engine having left the train), first see that hose coupling at one end of the train is off the plug, then pull the wire or cord fixed under the frame of each carriage. This admits air to the top side of the cylinder and the brakes fall off by gravity.

To couple the pipes the guard or porter must take one in each hand, and lift them sufficiently high to hook the bottom horns of the coupling together first, and then, by lowering them, place the top horns of the couplings in the slots.

To uncouple the pipes the guard or porter must simply lift them straight up, when the horns at the top will come out of the slots and the coupling will then separate.

The responsibility for properly coupling up all vehicles rests with the station staff and the guard; and the driver is responsible for his engine being properly coupled up by his fireman.

URBAN BROUGHTON,
Traffic Manager.

CORK AND MUSKERRY LIGHT RAILWAY.

TRAINS WITH PATENT CONTINUOUS BRAKE.

Vehicles (not being fitted with the apparatus) must be put at the rear of these trains, in order to preserve the continuity of the brake connexions in front.

Not more than four may be attached behind the guard's van, and proper couplings must, in all cases, be used, care being observed to have the usual tail lamp on the last vehicle.

INSTRUCTIONS TO ENGINE DRIVERS.

Application of the Brakes.

Before starting at the beginning of each journey the train must be examined to see what number of brake-fitted vehicles are connected, and the number that are in the rear of the train not fitted with brakes, or, if fitted, are not under the control of the driver.

Ordinary stoppages must not be made too quickly, and to avoid this the brake must be applied slightly some distance from where the train is to be stopped, and the application of it gradually and uniformly increased until the train comes to a stand, and must at all times be released very cautiously, to prevent the jerk consequent on the rebound of the carriage buffers and the engine shooting ahead, and to avoid subjecting the couplings to undue strain, and the passengers to discomfort.

This method of application to be carefully attended to when there are vehicles in rear of the train not fitted with brakes, and in such cases it is the duty of the guard to apply the rear brake.

When approaching terminal stations, particularly on falling gradients, great care must be exercised to have the train so under control that, if required, it could be stopped by the tender brake before the engine reaches the station buffer-stop.

Drivers must satisfy themselves that the brake is at all times in good working order. Before starting from a terminal station they must never fail to put on the brakes, and notice if the ejectors maintain a good vacuum both with the engine and carriage brakes. They must from time to time test its working.

The tender hand brake is not to be used for ordinary stoppages, but must be used occasionally when running light, in order to its being kept in a state of efficiency for emergencies, and always at terminal stations.

CORK, BANDON, AND SOUTH COAST RAILWAY.

WORKING AUTOMATIC VACUUM BRAKE.

Description.

1. The automatic vacuum brake stops the train by the application of the brake blocks to the tyres, in the same way as the ordinary hand-brake; but the levers which apply the blocks, instead of being worked by a screw, are worked by a cylinder and piston, actuated by atmospheric pressure.

2. The brake can be applied throughout the whole of the vehicles fitted with the apparatus by the engineman from the engine, or by the guard from his van; but in order that this may be done, it is imperative that the flexible connexions between each carriage, and between the engine and the train, shall be properly coupled up.

Instructions for Working.

3. In the formation of trains, when the whole of the coaches are not fitted with the automatic vacuum brake, those that are so fitted must be placed together, and next to the engine. In all cases where the automatic vacuum brake is only partially fitted to a train, a brake van, with a guard in it, must be the last passenger vehicle in the train, and this guard must apply his hand-brake in running into all stations where the train is to be stopped.

4. Before starting, the engineman must see that his gauge indicates at least 18 inches of vacuum, and this must be kept up during the journey.

5. On no account must the small ejector be shut from the time the train starts until the journey is finished.

6. Six to eight inches in the difference of the train pipe and reservoir gauge is sufficient for an ordinary stop, and the handle should be moved into the running position before the train stops, so as to avoid jerking the train.

7. The steam-cock on the boiler must always be shut when the engine is in shed, to prevent steam leaking back into the pipes.

8. When the train is approaching a terminal station, a dead-end siding, or a crossing place where a train is on the line before or when an engine is approaching a train containing passengers, for the purpose of shunting or coupling, the hand-brake only must be used; except in cases of emergency, and on such occasions the guard must be ready to assist with his hand-brake.

9. The engineman will be held responsible for coupling the pipes between his engine and the first vehicle of the train.

10. Before leaving terminal stations, or stations where vehicles have been added to or detached from the train, the engineman must get a signal from the head guard to intimate that the gauge in the guard's van shows not less than 18 inches of vacuum, and the guard, before giving such signal, must satify himself that the gauge in van shews not less than 18 inches.

11. If from any cause the engineman is unable to obtain at least 18 inches of vacuum, he must inform the guard of the fact, and they must work the train forward with the ordinary hand-brakes.

12. At any station where there is any likelihood of vehicles being put on or taken off, the vacuum in the continuous pipe must be destroyed by opening the air-valve on the engine, so that there may be no delay in coupling or uncoupling.

13. Guards must never apply the automatic vacuum brake except in cases of absolute necessity, and whenever they do so a full report of the circumstances must be made on their journals. They must at all times be ready to apply the hand-brake should the engineman call by whistle for its assistance.

14. In the event of a train parting, the guard in the rear portion must at once apply his hand-brake, and keep it tightly screwed on until the train is again coupled to the engine.

15. The head guard before giving the signal to start at the commencement of the journey, and at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain and inform the engineman :—

1st.—That all vehicles throughout the train fitted with the brake, have the flexible pipes properly coupled up.

2nd.—That the flexible pipe at the rear of the last brake-vehicle is properly placed upon the stop-plug.

3rd.—That 18 inches of vacuum is indicated by the gauge in the rear van on the train ; and

In the event of there being any vehicles on the train not fitted with the vacuum brake, the head guard must inform the engineman of the fact before starting, so that the engineman may know what number of vehicles he has control over, and what number are without the vacuum brake.

16. Porters and others are cautioned not to step on the hose-pipes.

17. Porters and others coupling hose-pipes must be careful not to let oil get on the pipes, as it damages the rubber. Carriage examiners are cautioned for the same reason not to oil the piston-rods of the cylinders, but they should be wiped with a dry patch.

18. The brake-blocks of all vehicles must be carefully examined by the carriage examiners, and adjusted by them only.

19. It is necessary that the words "Continuous Brake Train" shall be written at the top of the engineman's sheet and guard's report for every train fitted with the automatic vacuum brake. It is also necessary for the engineman to show on his mileage ticket the trains which have been worked by him with a continuous brake during the week.

20. If from any cause the automatic vacuum brake is not used, or fails to act when required, or if there is any irregularity in its working, a remark to that effect must be made by the guard on his report, and by the engineman on his sheet, which must be accompanied by a special report giving full particulars of the irregularity.

21. To release the brakes for shunting purposes, take the hose-coupling off the stopper at one end, and pull the string fastened to the side of each carriage

ALEX. GORDON,
General Manager.
JAMES W. JOHNSTONE,
Locomotive Engineer.

GREAT SOUTHERN AND WESTERN (IRELAND) RAILWAY.

AUTOMATIC VACUUM BRAKE.

INSTRUCTIONS AS TO WORKING.

DRIVERS.

Before starting, the driver must blow up the vacuum to 18 inches, and wait until the guard comes up to the engine to tell him whether the gauge in rear van indicates the proper amount of vacuum, and also to give him the other information, as laid down in the guard's instructions below. This is also to be done at each station where any attaching or detaching has taken place.

While running, the vacuum is to be kept as near 18 inches as possible, it must not fall below 15 inches, or rise above 20 inches.

To apply the brake, move the brake handle in the direction marked *ON*.

The difference between the two fingers marked *TOP* and *BOTTOM* on the engine gauge gives the amount of brake pressure at any time; thus, if the *BOTTOM* finger indicates 10, and the *TOP* finger 18, then the brake is on with 8 inches. When the brake handle is moved suddenly to the *ON* position for a quick application the valves in the guards' vans open automatically, and the brake is on with a pressure of as many inches as is then shown by the *TOP* finger of the gauge.

To release the brake, move the brake handle to position marked *OFF*, the small ejector will then gradually take the brake off; if necessary to take it off more rapidly use the big ejector.

If the big ejector be pulled when the brake handle stands at ON it will put the brake on harder; if the big ejector be pulled when the brake handle stands at OFF it will take the brake off quicker.

Note.—The amount of vacuum shown by the gauge when the brake was put on must be recreated before the brake will come fully off. Thus, if there was a vacuum of 20 inches when the brake was put on, or if the finger marked *TOP* was blown up to 20 while the brake was on, then it would be necessary to get at least 20 inches on the *BOTTOM* finger before the brake would be fully released.

When running, the brake handle is to stand upright at position marked *R*, and the small ejector is to be regulated to maintain the required vacuum. Should the driver find it impossible to maintain the proper vacuum, or should he be signalled by the guard (pulling the communication cord and showing a green signal), that the vacuum is not maintained on the van gauge, the train must be stopped under the next fixed signals, when the driver and guard will arrange as to what should be done.

(*a.*) The brake may be disconnected from the last three or four vehicles and worked on front portion of train only, the guard working his hand brake, or

(*b.*) If the vehicle with defective brake should be next to the engine, it might be shunted to the rear, and the brake disconnected from it, leaving the brake good on the rest of the train.

(*c.*) The train brake should not be disconnected and put out of use unless absolutely necessary, and then the train must be worked with care and at reduced speed where necessary.

If both fingers of the vacuum gauge suddenly drop to zero (showing that the brake has been applied by the guard, or by separation of couplings), move the brake handle to *ON*, and if required, pull the big ejector.

The brake is not to be used for entering terminal stations or stations with blind ends.

For ordinary stops reduce the vacuum on *BOTTOM* side about 3 or 4 inches, and then regulate the force by giving a little more or less as may be required. A decided reduction of three or four inches should be made when first applying, but if too much air is admitted the valves in the vans will open and apply the brake with full force in spite of the driver.

After coming to a stand at stations where attaching or detaching has to be done, the driver should destroy the vacuum in the train pipes by moving the brake handle gently to the *ON* position, and shut off the small ejector; this will leave the pipes easier to uncouple.

GUARDS.

The guard can apply the brake by holding down the lever of valve in his van, but he must not make use of the brake except in case of urgent necessity.

Head guard, before giving the signal to start, at the commencement of the journey, and at stations where any flexible pipes have been coupled or uncoupled, must ascertain, and inform the engine driver :—

1st. That all vehicles throughout the train fitted with brakes have the flexible pipes coupled up.

2nd. That the flexible pipes at the rear of the last vehicle are properly placed upon the stop plug.

3rd. That 15 inches of vacuum is indicated by the gauge in the rear van of the train.

In the event of there being any vehicles on the train not fitted with the vacuum brake, the head guard must inform the engineman of the fact before starting, so that the engineman may know what number of vehicles he has control over and what number are without the vacuum brake, and in the case of a foreign vehicle being attached, to indicate to the driver its position on the train. When running, if the vacuum on the van gauge is allowed to fall below 15 inches, the guard must pull the communication cord, and show the driver a green hand signal.

The brake is not to be used for entering terminal stations or stations with blind ends; guards must be at their hand brakes when passing the distant signal for such stations, and must work the hand brake and assist the driver in making the stop.

The working of the continuous brake by the driver does not relieve the guard of any responsibility; he must keep a good look out and be prepared to apply the hand brake if necessary.

Guards must enter in their journals and report particulars of any failure or unsatisfactory working of the brake; they must also see that nothing is placed so as to interfere with the valve lever in their vans.

Guards must not depend upon the automatic brake to hold a train on an incline when detached from the engine, but must use their hand brakes and act as directed in rule book as if the train had no continuous brakes.

General Instructions.

Porters and others must be careful not to step on the brake pipes when crossing the buffers.

When the brake pipes are disconnected they must not be left hanging down, but must be placed firmly on the stop plugs at the ends of the vehicle.

To release the brake for shunting (the engine having left the train) pull the wire which will be found attached to frame of the carriage close to the red star; a light pull is quite sufficient, but the wire must be held for a few seconds till the brakes drop off.

To couple the pipes take one in each hand, lift them high enough to hook the bottom horns of coupling together, then lower them, and the projections on top of the coupling will fall into the slots. To uncouple the pipes, lift the couplings straight up, when they will separate.

When handling the couplings porters, firemen, and others must be careful not to have any waste or sponge cloth in their hands in order to prevent such things getting drawn into the pipes.

When attaching any foreign vehicles having only one train pipe to G. S. and W. trains, couple the pipe on the foreign vehicle to the large or bottom G. S. and W. pipe (*i.e., couple the only pipe which will couple*) and leave the small G. S. and W. pipe on the plug.

All vehicles on which the brake is automatic are marked with a red star on the frame on each side.

H. A. Ivatt, *Locomotive Engineer.*

J. H. Bell, *Superintendent of Line.*

MIDLAND GREAT WESTERN RAILWAY.

Rules to be observed in Working Power Brakes.

Instructions to Enginemen.

Continuous (Vacuum) Brakes applied to Passenger Engines and Carriages.

Before starting on the journey, when the engine is attached to the train, the driver must examine his train to see that all brake-fitted vehicles are connected, and he is to note the number (if any) in rear of the guard's van not so fitted, or, if fitted, which are not connected, so that he may know the amount of brake-power at his command.

At each intermediate station, where vehicles are taken on, or left off, it must be ascertained from the guard (whose duty it is to walk forward to the engine and give the information) to what extent the brake-power is affected by the altered composition of the train.

Ordinary stoppages must not be made too quickly, therefore the brake must be applied slightly some distance from where the train is to be stopped, and the application of it gradually and uniformly increased, until the train comes to a stand, and it must at all times be released very cautiously, to prevent the jerk consequent on the rebound of the carriage buffers and the engine shooting ahead, and to avoid subjecting the couplings to undue strain and the passengers to discomfort.

Especial care to be observed when there are vehicles in rear not fitted with brakes.

When approaching terminal stations, particularly on falling gradients, great care must be exercised, so that the stopping of the train may be under the driver's complete control. *All trains are to be stopped at every terminal and junction station by hand-brakes only*, except in case of failure of the hand-brakes, or in the event of some sudden danger arising that calls for the instant pulling up of the train, then the power-brake is to be used.

Drivers must satisfy themselves that the brake is at all times in working order. Before starting from a terminal station they are to put on the brakes and notice if the ejectors maintain a good vacuum both with the engine and carriage brakes. They must from time to time test its working.

Each engine and guard's van will be fitted with a "tell-tale" vacuum gauge. When the vehicles are all coupled together and attached to the engine and a vacuum maintained in the pipes, then the gauge will show the word "right." When the engine is detached, or any of the vehicles separated, the dial will show the word "wrong," which means that the brake is not in working order. This may result from the connecting air-pipes between the carriages not having been coupled up, through some accident to the pipes, or to the vacuum cylinders, or from part of the train becoming detached.

Whatever the cause, when the dial shows "wrong," it is to be understood the vacuum-brake is defective, and no longer to be relied on, and recourse must then be had to the hand-brakes, and prompt steps taken to remedy any accident or make good any defect that may have taken place.

In addition to the tender hand-brake being *always* used when coming into a terminal station it must be used occasionally when running light, to insure its being kept in good working order.

It is the duty of the fireman to couple the air-pipe of the engine to the air-pipe of the train before starting, and to detach it at the end of the journey; and if the pipes between the tender and the next vehicle to it have been uncoupled at intermediate stations for shunting or other purposes, the fireman must see that they are properly coupled before the train starts, and the driver is to see that the fireman properly carries out this work.

Instructions to Guards.

The head guard must examine the train to see the number of brake-connected vehicles, and to give the necessary information, mentioned above, to the driver; and when there are vehicles over which the driver has no brake-control, the guards must give the necessary attention to the hand-brake. The working of the continuous brakes by the driver will not relieve the guards from any responsibility; they must keep a good look-out, and be prepared to apply the hand-

brakes whenever any necessity arises. At terminal stations guards must apply their hand-brakes should they think the driver has not his train well in hand, or that there is the least risk of touching the buffer-stops.

The guards of the train must examine the couplings at each station where the stopping time will admit of it, and satisfy themselves, before ordering the train to start, that the pipes are firmly and properly coupled, and that the couplings and pipes are in thoroughly good order.

Guards must enter on their journals full particulars of any defect, failure, or unsatisfactory working of the brakes of their train, or any portion of the fittings, couplings, &c. They must also enter upon their journals any sudden stop made by the application of the power-brake, and state the circumstances.

Guards are required to read, and to make themselves thoroughly conversant with, the *Instructions to Drivers* on the working of continuous brakes; and their special attention is called to the Rule for the application of hand-brakes with mixed and goods trains, and to the use of hand-brakes when coming into all terminal stations.

General Instructions.

Station-masters, inspectors, and foremen must give special attention to the proper coupling of the air-brake-pipes by experienced porters, and must carefully examine the couplings before starting the train. They must make such arrangements as will insure these pipes being cared for, and in no way improperly used.

All the vehicles composing the train are to be coupled tightly together to prevent excessive action of the buffers of the carriages when the brake is applied, and to insure that the air-pipes will not be disconnected by any strain that may be put upon the drawbars.

It is the duty of the staff at stations to adjust the couplings and air-pipes of the carriages properly, and it is the duty of the fireman to attach his engine to the train before starting, and to see to the brake-couplings between the engine and the train. The driver, at stations where trains are first started from, and the head guard at intermediate stations, where vehicles are taken on or left off, are responsible for seeing that the couplings and air-pipes of the carriages composing the train are properly adjusted.

Care must be taken when, from any cause, vehicles fitted with the air-brake are detached from the train, and the pipes disconnected, that the pipes are again coupled; and when, in like manner, vehicles are attached to the train, the pipes must be properly coupled, so as to form continuous communication throughout the train, the pipe on the last brake-fitted vehicle being coupled to its "dummy."

When vehicles fitted with a continuous air-brake are left in sidings or at stations, the brake-pipes of each vehicle must be coupled to the "dummy" (fixed to each pipe) and not left hanging loose.

Porters and others are cautioned that, in passing between vehicles, *they must not step upon the brake-pipes*, or in any way interfere with the connexions.

Carriage trucks must always be put at the rear of trains.

WATERFORD AND LIMERICK RAILWAY.

Instructions for working Continuous Automatic Vacuum Brake.

1. In the formation of trains, when the whole of the coaches are not fitted with the automatic vacuum brake, those that are so fitted must be placed together, and next to the engine. When the whole train is not fitted, the automatic vacuum brake must not be used for ordinary stoppages, but only in cases of emergency. In all cases where the automatic vacuum brake is only partially fitted to a train, a brake van, or a carriage, with a guard in it, must be the last passenger vehicle in the train, and this guard must apply his hand brake in running into all stations where the train is to be stopped.

2. The brake can be applied throughout the whole of the vehicles fitted with the apparatus by the engineman from the engine, or by the guard from his van; but in order that this may be done, it is imperative that the flexible connexions between each carriage and between the engine and the train shall be properly coupled up.

3. Guards must never apply the automatic vacuum brake except in cases of absolute necessity, and whenever they do so a full report of the circumstances must be made on their journals; they must at all times be ready to apply the *hand brake* should the engineman call by whistle for its assistance.

4. When the automatic vacuum brake is to be used for the ordinary stoppage of trains, it must be by the engineman opening the air valve on the engine, but it must be done gradually, and never suddenly or with full force, except in cases of emergency.

5. *In approaching junctions, terminal stations, or stations at which other trains may be standing on the same line of rails, or crossing stations on single lines, the automatic vacuum brake or steam brake must only be used in cases of emergency, the enginemen taking care to reduce the speed of the train so that the train may be brought to a stand by the hand brakes alone.*

6. In the event of a train parting, the guard in the rear portion must at once apply his hand brake, and keep it tightly screwed on until the train is again coupled to the engine.

7. In descending inclines the engineman must, when necessary to reduce the speed, use the automatic vacuum brake in preference to the hand brakes.

8. The head guard, before giving the signal to start at the commencement of the journey, and at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain and inform the engineman—

1st. That all vehicles throughout the train fitted with the brakes have the flexible pipes properly coupled up.

2nd. That the flexible pipe at the rear of the last brake vehicle is properly placed upon the stop plug.

3rd. That 15 inches of vacuum is indicated by the gauge in the rear van on the train; and,

In the event of there being any vehicles on the train not fitted with the vacuum brake, the head guard must inform the engineman of the fact before starting, so that the engineman may know what number of vehicles he has control over, and what number are without the vacuum brake.

9. The engineman, before starting at the commencement of the journey, and also at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain from the guard the number of vehicles in the train fitted with the brake the flexible pipes of which are coupled up to the engine, and that a vacuum of at least 15 inches is shown by the gauge in the rear van. He must also be careful to see—

That the vacuum pipe of his engine is properly coupled up to the leading vehicle in the train.

That at least 15 inches of vacuum is indicated by the gauge on the engine.

10. If from any cause the engineman is unable to obtain at least 15 inches of vacuum, he must inform the guard of the fact, and they must work the train forward with the ordinary hand brakes.

11. Just before coming to a stand, after the application of the automatic vacuum brake at stations, or when stopped on the road, the engineman must use his ejector so as to partially release the continuous brake. This will prevent any rebound of the carriages, and will also enable the engineman to start his train immediately on receipt of the signal to do so.

12. When the pipes between the engine and train are disconnected, the couplings must be placed on the plug stops provided for the purpose. Detached carriages must always have the hose couplings placed on the plug stops.

13. At any station where there is any likelihood of vehicles being put on or taken off, the vacuum in the continuous pipe must be destroyed by opening the air valve on the engine, so that there may be no delay in coupling or uncoupling.

14. As india-rubber is dissolved by oil or grease, it is most important that nothing of a greasy nature should be applied to or allowed to reach the piston or piston rod. The only lubrication which is required is a little pure blacklead, which must be placed inside each cylinder by the persons appointed for the purpose. The other part of the brake must be cleaned and oiled by the examiners in the usual way.

15. In the case of vehicles fitted with the combined hand and vacuum brake, the guard must see before starting that the hand brake is screwed "full off," and the handle secured by means of the chain provided for that purpose.

16. It is necessary that the words "continuous brake train" shall be written at the top of the engineman's train bill and guard's report for every train fitted with the automatic vacuum brake. It is also necessary for the engineman to show on his mileage ticket the trains which have been worked by him with a continuous brake during the week.

17. If from any cause the automatic vacuum brake is not used, or fails to act when required, or if there is any irregularity in its working, a remark to that effect must be made by the guard on his report, and by the engineman on his train bill, which must be accompanied by a special report giving full particulars of the irregularity.

18. Guards must take care during the journey that nothing in the van is allowed to rest against or in any way interfere with the lever of the brake setter.

19. When vehicles are supplied with connecting pipes only, they must be considered as vehicles without the brake, but the brake connexions must be made as described in clause 2.

20. When vehicles not fitted with a continuous brake, or having connecting pipes only, are attached to a train fitted with such brake, or to an engine having the brake on the engine wheels as well as the tender wheels, the guard in the rear van must, immediately upon the continuous or engine brake being applied by the driver, apply his hand brake, and keep it tightly on, either until the train has come to a stand, or the driver has taken off his brake, and is again going forward, as the case may be. This arrangement is necessary to prevent the rebound of the carriages and possible breaking of the drawbars which may occur when a powerful brake is applied to the front portion of trains only.

JOHN ROBERTS,
Traffic Manager.

JOHN G. ROBINSON,
Locomotive and Carriage Superintendent.

July, 1889.

3.—CIRCULAR of BOARD OF TRADE to RAILWAY COMPANIES.

Board of Trade, Railway Department,
30th August 1877.

SIR,

I AM directed by the Board of Trade to request that you will call the attention of the Directors of your Company to the paper which has recently been laid before Parliament, containing the correspondence that has taken place between the Board of Trade and the Railway Association relative to the use of continuous brakes, and to state that this Department have been giving further careful consideration to this important question, as will be seen by a reference to the General Report upon Railway Accidents for the year 1876 recently presented to Parliament.

In that Report will be found the details of the circumstances attending all the accidents which have been investigated by the officers of the Board of Trade during the past year; from a careful examination of which and similar information for the past few years. the Board of Trade are led to conclude that three fourths of those accidents might probably have been avoided, or the results materially mitigated, if the passenger trains concerned had been provided with continuous brakes.

In Mr. Leeman's letter of the 18th April, forming part of the correspondence above referred to, it is stated that it is "not essential that one form of brake should be invariably adopted." If by this it is meant that it is desirable to try every form of brake, and that it is not desirable by the exclusive adoption of one form to prevent the trial and introduction of better forms, the Board of Trade would entirely concur. But if it is meant that there would be no advantage in having one form of brake for all lines which interchange traffic with one another, the Board of Trade hold a different opinion; for it appears to them obvious that in the interchange of rolling stock, including ordinary carriages, saloon and family carriages, horse boxes, carriage and fish trucks, and other vehicles forming part of passenger trains, between one line and another, if the brake fittings are not similar, the efficiency of the brakes must be proportionately impaired and that this must be especially the case where the lines of two or more companies are continuous.

The London and North-western, the Great Northern, and the Midland Companies all run through-trains to Scotland, which are forwarded over the Caledonian, North-eastern, North British, Glasgow and South-western, and Highland Railways. It is therefore obvious that the advantage to be derived from any continuous brake system in use on any of these lines will be diminished and neutralized if at such stations as Carlisle, Glasgow, York, Edinburgh, Perth, and Inverness the traffic is so arranged that carriages with one system of brakes are attached to trains containing carriages fitted with a different system. This evil can only be avoided if those companies which interchange traffic with one another adopt one and the same general system.

The Board of Trade therefore regret to observe from the returns forwarded, in the correspondence above alluded to not only that there is no immediate prospect of the adoption of any such general system even by companies owning continuous lines, but that many of the companies are not taking, and apparently refuse to take, any steps towards that end.

Referring to the merits of the different brakes now in use, or under experiment, as stated in the answers to the questions put by the Board of Trade, it is to be remarked that the statements of the different companies vary considerably, and are scarcely consistent with each other.

Thus the London and North-western Company express themselves satisfied with a mechanical continuous brake, which is reserved for cases of emergency, and which can only be applied throughout the train by the engine-drivers or guards through the intervention of a communication-cord.

No other great company appears to have even tried this brake. On the other hand, many companies speak in the highest terms of air or vacuum brakes, which are rejected in toto by the London and North-western Company. The Great Northern Company have adopted a vacuum brake, which is highly thought of, and which it is stated can be made self-acting, but which, so far as can be learned from the correspondence, does not at present possess that quality. The Midland, North-eastern, North British, and some other companies are stated to have tried or adopted brakes which are self-acting. On the other hand, the Manchester, Sheffield, and Lincolnshire Company seem to think that new elements of danger are produced by the practical operation of continuous brakes, though they do not say what those dangers are. It would be easy, but is scarcely necessary, to dwell at greater length on the different and even discordant views disclosed in the answers of the different companies.

Under these circumstances the Board of Trade whilst recognizing the efforts which some of the companies are making in testing or adopting improved systems of brakes, cannot regard the state of things shown by these papers as satisfactory, inasmuch as it indicates a diversity of opinion and action and in some cases an absence of progress, which, if allowed to continue, will be most injurious to the character of the companies and to the interests of the public. There has apparently been no attempt on the part of the various companies to take the first step of agreeing upon what are the requirements which in their opinion are essential to a good continuous brake.

In the opinion of the Board of Trade these conditions should be as follows:—

a. The brakes to be efficient in stopping trains, instantaneous in their action, and capable of being applied without difficulty by engine-drivers or guards.

b. In case of accident to be instantaneously self-acting.

c. The brakes to be put on and taken off (with facility) on the engine and every vehicle of a train.

d. The brakes to be regularly used in daily working.

e. The materials employed to be of a durable character, so as to be easily maintained and kept in order.

The inquiries and experiments instituted by the Royal Commission on Railway Accidents, and the recent researches into the causes of railway accidents during the last few years, appear to the Board of Trade to leave no doubt as to the importance of the above conditions, and the experience which has been obtained by the companies appears sufficient to enable them to come to some general and unanimous conclusion.

There can, therefore, be no reason for further delay, and the Board of Trade feel it their duty again to urge upon the railway companies the necessity for arriving at an immediate decision and united action in the matter.

The companies and their officers, who are as much interested as the public in the safe and efficient working of their railways, and upon whom devolves the adoption of proper systems of brake and of such other improvements as have been proved by past experience to be necessary in the interest of public safety, would do well to reflect that if a doubt should arise that from a conflict of interest or opinion, or from any other cause, they are not exerting themselves, it is obvious that they will call down upon themselves an interference which the Board of Trade, no less than the companies, desire to avoid.

In conclusion I am to call your attention to a notice which has already been given in Parliament for next session, for copies of any further correspondence between the Board of Trade and the Railway Companies with reference to the progress made in brake power; and in order that the Board of Trade may be in a position to furnish that information to Parliament, I am to request that the companies will from time to time furnish the Board with full accounts of any further experiments they may make, and of any steps which they may take for the adoption or extension of improved systems of brakes.

I am, &c.

The Secretary, EDWARD STANHOPE.

Railway Company.

4.—Copy of Act.

(41 Vict. Chapter 20.)

An Act to provide for returns respecting Continuous Brakes in use on Passenger Trains on Railways. [17th June 1878.] A.D. 1878.

Be it enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:

1. This Act may be cited as the Railway Returns (Continuous Brakes) Act, 1878. Short title.

2. Every railway company shall twice in every year make to the Board of Trade returns respecting the use of continuous brakes on the passenger trains running on the railways worked by such company. Returns to be made twice a year by railway companies to Board of Trade respecting continuous brake.

The returns shall contain the particulars and be in the form specified in the schedule to this Act, or shall contain such other particulars and be in such other form as the Board of Trade from time to time prescribe; and the Board of Trade may in any case dispense with any part of the returns where they deem the same inapplicable.

The returns shall be made for the six months ending on the last day of December and the last day of June in every year, or on such other days as the Board of Trade from time to time direct, and shall be made within fourteen days after the expiration of each six months.

Every return shall be signed by the officer of the company responsible for the correctness of the return, and by the chairman or deputy chairman of the directors of the company, or where there are no directors by the individual or one of the individuals bound to make the return.

Any railway company who fail to comply with this section shall be liable on summary conviction before a court of summary jurisdiction to a fine not exceeding five pounds for every day during which the default continues.

Any person who makes or is privy to the making of a return under this Act which is to his knowledge false in any particular shall be liable on summary conviction before a court of summary jurisdiction to a fine not exceeding fifty pounds.

Expressions in this Act have the same meaning as they have in the Regulation of Railways Act, 1871. 34 & 35 Vict. c. 78.

SCHEDULE.

Forms of Return (as amended by Board of Trade).

Return for the Six Months ending on the day of 18 of the Amount and Description of Continuous Brake Power in use on the Passenger Trains running on the railways worked by the Railway Company.

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company and in use on Passenger Trains on Lines worked by them.	(1.) Whether the brakes are instantaneous in action and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with Continuous Brakes.						Amount of Stock NOT fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
					Number of Vehicles.								Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Passenger Carriages.		Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Train	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.							
	(*Each description of Continuous Brake to be given.*)	(*Replies to these questions to be given for each description of Brake, and also state whether the Brakes are used for every stoppage.*)	(*The amount of stock fitted with each description of Brake to be given.*)								(*The amount of stock for each description of Brake to be given.*)				

No. 2.—Return for the Six Months ending on the day of 18 of all instances in which Continuous Brakes have failed to act when required to be brought into action, or have caused delay in the working of the trains on any railway worked by the Railway Company.

1. Name of Railway Company.	2. Name or description of Brake which failed or caused delay in any of the instances asked for in Column 4.	3. Date of Failure.	4. Instances under the three following heads separately of :— 1. Failure or partial failure to act when required in case of an accident to a train, or a collision between trains being imminent. 2. Failure or partial failure to act under ordinary circumstances to stop a train when required. 3. Delay in the working of trains in consequence of defects in, or improper action of, the brakes, distinguishing whether they arose from neglect or inexperience of servants or failure of machinery or material.	5. Number of Miles run by Trains fitted with each description of Continuous Brake.

No. 3.—Return for the Six Months ending on the day of 18 of the Number of Miles run by Passenger Trains not fitted with Continuous Brakes on any railway worked by the Railway Company.

Name of Railway Company.	Name of Railway worked by Company on which Passenger Train ran without Continuous Brake.	Number of Miles run by Passenger Trains without Continuous Brakes.

RETURN

(In pursuance of the Railway Returns (Continuous Brakes) Act, 1878)

BY

THE RAILWAY COMPANIES OF THE UNITED KINGDOM,

For the Six Months ending the 30th June 1893.

Presented to both Houses of Parliament by Command of Her Majesty.

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HODGES, FIGGIS, & Co., Limited, 104, Grafton Street, Dublin.

1893.

[C.—7153.] *Price* 1*s.*

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Board of Trade,
September 1893.

COURTENAY BOYLE.

TABLE compiled from the HALF-YEARLY RETURNS of CONTINUOUS BRAKES from 30th June 1885, to 30th June 1893 (omitting all the December half-years, and the Brakes not in use during the past half-year), showing the PROGRESS made in the USE of CONTINUOUS BRAKES, and the Total Amount of STOCK NOT FITTED with CONTINUOUS BRAKES.

NAME OF BRAKE.	Amount of Stock fitted as per Return for Six Months ended																NAME OF BRAKE
	30 June 1885.		30 June 1886.		30 June 1887.		30th June 1888.		30th June 1889.		30 June 1890.		30 June 1891.		30 June 1892.		30th June 1893.		
	Engines.	Carriages, &c.	Engines.	Carriages, &c.	Engines.	Carriages, &c.	Engines.	Carriages, &c.	Engines.	Carriages, and other Vehicles.	Engines.	Carriages, &c.	Engines.	Carriages, &c.	Engines.	Carriages, &c.	Engines.	Carriages, &c.	
Brakes which are returned by the Companies as complying with conditions in Board of Trade circular.																			*Brakes which are returned by the Companies as complying with conditions in Board of Trade circular.*
Automatic vacuum	1,783	9,949	2,185	11,714	2,581	13,883	3,588	17,750	5,259	23,339	6,319	27,314	7,521	31,519	8,112	36,964	8,876	40,861	Automatic vacuum.
Westinghouse automatic	1,523	18,620	1,706	14,519	1,804	14,652	1,915	14,838	2,041	15,553	2,312	16,345	2,410	17,158	2,570	18,515	2,666	19,276	Westinghouse automatic.
Total	3,396	24,190	3,980	26,853	4,386	28,578	5,504	32,630	7,301	38,931	8,631	43,693	9,931	48,711	10,682	55,479	11,542	60,137	Total.
Per-centage of total stock (complying)	49 per cent.	47 per cent.	52 per cent.	52 per cent.	52 per cent.	54 per cent.	61 per cent.	62 per cent.	75 per cent.	72 per cent.	83 per cent.	81 per cent.	86 per cent.	86 per cent.	95 per cent.	94 per cent.	98 per cent.	98 per cent.	Per-centage of total stock (complying).
Brakes which appear to comply with only some of the conditions in the circular.																			*Brakes which appear to comply with only some of the conditions in the circular.*
Chain brake (including the brake in use on North London Railway)	85	4,627	688	2,677	764	2,076	770	1,689	778	1,523	778	1,441	807	1,165	82	323	—	14	Chain brake (including the brake in use on North London Railway).
Fay's, Newall's, and Fay and Newall's	—	2,164	—	1,689	—	1,091	—	165	—	145	—	378	—	283	—	135	—	110	Fay's, Newall's, and Fay and Newall's.
Smith's vacuum	1,231	7,559	1,250	7,773	1,616	8,010	1,529	7,641	841	4,304	471	3,195	295	2,315	125	1,411	5	397	Smith's vacuum.
W. Parker Smith's automatic	—	3	—	3	—	3	—	3	—	3	—	3	—	3	—	3	—	3	W. Parker Smith's automatic.
Vacuum	537	2,532	657	4,548	970	5,650	560	4,925	205	3,896	100	2,733	103	1,559	93	168	90	34	Vacuum.
Total and per-centage	1,816 or 26 per cent.	16,662 or 32 per cent.	2,651 or 35 per cent.	16,385 or 31 per cent.	3,404 or 40 per cent.	17,090 or 32 per cent.	2,913 or 32 per cent.	15,073 or 29 per cent.	1,878 or 20 per cent.	10,521 or 20 per cent.	1,403 or 13 per cent.	8,100 or 15 per cent.	1,259 or 11 per cent.	5,693 or 10 per cent.	300 or 3 per cent.	2,040 or 3 per cent.	95 or 1 per cent.	558 or 1 per cent.	Total and per-centage.
Total stock (complying and partly complying) fitted with continuous brakes and per-centage	5,212 or 75 per cent.	40,852 or 79 per cent.	6,631 or 89 per cent.	43,238 or 83 per cent.	7,790 or 92 per cent.	45,668 or 86 per cent.	8,417 or 93·7 per cent.	47,703 or 91 per cent.	9,179 or 95 per cent.	49,452 or 92 per cent.	10,034 or 96 per cent.	51,793 or 96 per cent.	11,190 or 97 per cent.	54,404 or 96 per cent.	10,982 or 98 per cent.	57,519 or 97 per cent.	11,637 or 99 per cent.	60,695 or 99 per cent.	Total stock (complying and partly complying) fitted with continuous brakes and per-centage.
Total amount of stock *not* fitted with continuous brakes and per-centage	1,765 or 25 per cent.	10,707 or 21 per cent.	849 or 11 per cent.	8,552 or 17 per cent.	682 or 8 per cent.	7,140 or 14 per cent.	567 or 6·3 per cent.	4,853 or 9 per cent.	545 or 5 per cent.	4,312 or 8 per cent.	410 or 4 per cent.	2,263 or 4 per cent.	335 or 3 per cent.	2,071 or 4 per cent.	210 or 2 per cent.	1,608 or 3 per cent.	121 or 1 per cent.	734 or 1 per cent.	Total amount of stock *not* fitted with continuous brakes and per-centage.

NOTE.—The above return is prepared with the object of showing the progress made for several years. The figures which are given in gross include engines fitted with apparatus for working brakes and vehicles fitted with pipes or connections. For further division, *see* pp. 4, 5.

ABSTRACT of the RETURNS showing the description of CONTINUOUS BRAKES in use on 30th June 1893 on the Railways in the UNITED KINGDOM, and the AMOUNT of STOCK and the MILEAGE run by Trains fitted with each description of Brake, &c., &c.

Name of Brake.	Name of Railway Company.	Stock fitted.				Number of Thousands of Miles run by Trains fitted.	Proportion per cent.	
		Engines and Tenders.		Carriages, &c.			Of Vehicles fitted with Brakes.	Of Mileage run by Trains fitted.
		Fitted with Brakes.	Fitted with Apparatus for working the Brakes.	Fitted with Brakes.	Fitted with Pipes, &c.			
1. *The following Brakes are returned by the Companies as complying with the conditions specified in the Circular of the Board of Trade, dated 30th August* 1877. (*For copy of Circular see page* 121.)								
Automatic Vacuum	Barry	7	—	43	—	32	100	100
	Brecon and Merthyr	9	2	40	13	76	70	98
	Cambrian	29	3	187	13	186	77	46
	Cheshire Lines	—	—	465	18	971	96	100
	Corris	1	—	5	—	4	71	72
	Festiniog	6	—	33	26	—	56	—
	Furness	48	—	280	45	325	78	100
	Golden Valley	—	1	3	—	12	75	66
	Great Northern	692	5	3,032	860	4,648	*99	100
	Great Western	626	1,387	5,686	—	9,149	100	100
	Hull, Barnsley, and W. Riding J.	38	—	226	*25*	175	91	98
	Lancashire and Yorkshire	868	—	3,550	—	4,712	100	100
	London and North-western	1,305	99	7,405	174	9,789	98	100
	L. and N.W. and Caledonian (West Coast Joint Stock).	—	—	386	—			
	London and South-western	574	21	3,312	214	4,719	94	100
	Manchester and Milford	4	4	6	3	20	33	48
	Manchester, Sheff., and Linc.	562	8	1,172	105	1,947	92	100
	Manchester South Junction and Altrincham.	11	—	135	—	115	100	100
	Maryport and Carlisle	14	—	66	12	95	86	100
	Mawddwy	1	—	2	—	—	50	—
	Mersey	9	9	97	3	143	97	100
	Metropolitan	70	—	352	—	599	93	58
	Midland	—	1,217	4,706	379	6,952	80	100
	Midland & South-western Junc.	—	7	25	16	109	61	100
	Neath and Brecon	3	—	11	—	14	100	100
	North-eastern	*6*	*96*	*153*	*572*	9	—	—
	North London	79	—	674	—	915	100	100
	North Staffordshire	39	—	273	135	631	60	100
	Pembroke and Tenby	3	—	18	—	4	31	10
	Pontypridd, Caerphilly, and Newport.	1	—	4	—	6	100	100
	Rhondda and Swansea Bay	9	—	37	1	28	97	100
	Severn and Wye and Severn Bridge.	5	—	17	15	31	53	100
	Somerset Joint Committee	—	58	182	—	292	100	100
	South-eastern	325	—	1,727	37	2,932	81	100
	Taff Vale	42	—	284	—	215	100	100
	Wirral	8	—	30	—	81	64	100
	Wrexham, Mold, & Connah's Quay	8	—	34	—	20	100	100
	Glasgow and South-western	88	—	813	—	1,046	70	62
	Highland	86	—	312	350	483	41	63
	Portpatrick and Wigtownshire Joint.	1	—	1	4	26	20	97
	Belfast and County Down	24	—	142	24	229	86	99
	Belfast and Northern Counties	62	—	251	28	422	90	98
	Cavan, Leitrim, and Roscommon Light.	8	—	128	7	49	95	100
	Clogher Valley	6	—	19	—	41	100	100
	Cork, Bandon, and South Coast	11	—	44	—	69	92	66
	Cork and Macroom	4	—	13	1	30	12	90
	Cork and Muskerry Light	6	—	19	6	40	24	100
	Cork, Blackrock, and Passage	3	—	14	2	19	78	63
	Dublin, Wicklow, and Wexford	52	—	223	15	419	94	91
	Dundalk, Newry, and Greenore	5	—	22	—	29	100	100
	Great Northern of Ireland	90	—	568	—	1,031	100	100
	Great Southern and Western	107	—	560	—	1,066	100	100
	Londonderry and Lough Swilly	4	—	22	4	8	85	19
	Midland Great Western	57	—	317	55	663	85	100
	Tralee and Dingle	4	—	43	—	27	100	100
	Waterford and Central Ireland	3	—	32	—	8	71	12
	Waterford and Limerick	25	—	89	57	221	49	64
	Waterford, Dungarvan, and Lismore.	2	—	—	—	—	—	—
	West Carbery	4	—	9	2	9	82	100
	West Clare	7	—	91	—	58	100	100
Westinghouse Automatic.	Colne Valley and Halstead	3	—	15	1	30	88	100
	East and West Junction	3	—	9	5	58	64	99
	Great Eastern	530	—	3,887	3	5,622	100	100
	Hull, Barnsley, and W. Riding J.	6	—	—	25	2	—	1
	Isle of Wight	8	—	45	—	59	100	100
	Isle of Wight Central	7	—	16	—	63	52	75

* Excluding waggons fitted with pipes.

Name of Brake.	Name of Railway Company.	Stock fitted. Engines and Tenders. Fitted with Brakes.	Engines and Tenders. Fitted with Apparatus for working the Brakes.	Carriages, &c. Fitted with Brakes.	Carriages, &c. Fitted with Pipes, &c.	Number of Thousands of Miles run by Trains fitted.	Proportion per cent. Of Vehicles fitted with Brakes.	Proportion per cent. Of Vehicles run by Trains fitted.
1. *The following Brakes are returned by the Companies as complying with the conditions specified in the Circular of the Board of Trade, dated 30th August 1877.* (*For copy of Circular see page* 121)—continued.								
Westinghouse Automatic—*cont.*	London, Brighton and S. Coast	378	—	2,784	30	3,591	99	100
	London, Chatham, and Dover	196	—	1,108	20	1,847	98	100
	Londonderry	3	—	21	—	19	100	100
	London, Tilbury, and Southend	36	—	305	6	419	95	100
	Metropolitan District	54	—	368	—	778	100	100
	Midland	17	—	234	514	2	5	—
	Midland, Scotch Joint Stock	—	—	85	—			
	North-eastern	601	—	3,427	2	5,806	100	100
	North Staffordshire	—	—	—	9	—	—	—
	N. Wales Narrow Gauge	3	—	8	—	—	66	—
	Rhymney	23	7	77	—	93	100	100
	West Lancashire	11	—	49	8	93	86	89
	Caledonian	344	—	2,349	88	3,443	97	100
	Glasgow and South-western	98	—	342	—	640	30	38
	Great North of Scotland	70	—	610	18	408	95	64
	North British	246	19	2,468	310	3,755	89	100
	Castlederg and Victoria Bridge	3	—	7	23	10	23	100
	Totals	8,695	2,847	56,451	3,686	82,713	92	98
2. *The following Brakes appear to comply with only some of the conditions specified in the Circular above mentioned.*								
Clark and Webb's	Bishop's Castle	—	—	4	—	—	67	—
	London, Tilbury, and Southend	—	—	8	2	—	2	—
Fay's	Brecon and Merthyr	—	—	4	—	2	7	2
	Lancashire and Yorkshire	—	—	5	—	—	—	—
Newall's	Lancashire and Yorkshire	—	—	2	—	—	—	—
	Highland	—	—	99	—	62	13	8
Walter Parker Smith's Automatic.	Liskeard and Caradon	—	—	3	—	4	50	100
Smith's Vacuum	Metropolitan	—	—	11	16	440	3	42
	South-eastern	—	—	97	257	—	4	—
" "	Sligo, Leitrim, and Northern Counties.	5	—	16	—	15	100	81
Vacuum	North Staffordshire	35	55	34	—	—	7·5	—
	Totals	40	55	283	275	523	—	—
Total Amount of Stock returned as FITTED with Continuous Brakes to 30th June 1893.		8,735 or 74 per cent.	2,902 or 25 per cent.	56,734 or 93 per cent.	3,961 or 6 per cent.	83,236 or 99 per cent		
Amount of Stock FITTED with Continuous Brakes during the six months ending 30th June 1893.		543 or 5 per cent.	120 or 1 per cent.	1,980 or 3 per cent.	840 or 1 per cent.			
Amount of Stock NOT FITTED with Continuous Brakes		3,025 including 2,904 engines fitted with apparatus for working the continuous brake, or 26 per cent.		4,695 including 3,961 vehicles fitted with pipes and connections only, or 7 per cent.		Thousands of miles run by trains *not* fitted. 1,392 or 1 per cent.		

NOTE.—The engines entered above as fitted with apparatus for working the continuous brake, have in most instances steam brakes which are worked in connexion with the continuous brake.

No. 1.

RETURN for the Six Months ending on the 30th day of June 1893, of the AMOUNT running on

NAME OF RAILWAY COMPANY.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	AMOUNT OF STOCK FITTED WITH			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages.	
					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.
ENGLAND AND WALES.						
BARRY - -	Smith's automatic vacuum brake.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	7	—	43	—
BISHOP'S CASTLE -	Webb's chain -	(1.) Yes, and applied by guard. (2.) Yes. (3.) Yes to vehicles so fitted. (4.) Yes. (5.) Yes. (6.) Yes.	—	—	4	—
BRECON AND MERTHYR TYDFIL JUNC.	Fay's - -	(1.) By guard. (2.) No. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	—	—	4	—
	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Part of the material is durable, parts are not. (6.) Yes.	9	2	38	2
CAMBRIAN - -	Automatic Vacuum -	(1.) Yes. (2.) Yes, (3.) Yes. (4.) Yes. (5.) Yes. (6.) It is believed that in practice the brake is applied at all stations except terminals.	29	3	128	3
CHESHIRE LINES COMMITTEE.	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	Supplied by M. S. & L. and Midland Railway Companies.		407	—
COLNE VALLEY AND HALSTEAD.	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	3 tank	—	13	1
CORRIS - - -	Vacuum Automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	1	—	4	—
EAST AND WEST JUNCTION.	Westinghouse automatic brake. Vacuum brake -	(1.) Yes. (2.) Yes. (3.) Yes, if fitted. (4.) Yes, when required. (5.) Yes. (6.) Yes.	3	—	9	—
FESTINIOG - -	Automatic Vacuum -	(1 to 6.) Yes - - -	6	—	28	26
FURNESS -	Vacuum automatic - (Smith's.)	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	48	—	221	2
GARSTANG AND KNOT END.	No continuous brakes	Only one carriage in regular use, to which a hand brake, reaching each wheel, is applied at every stoppage.	—	—	—	—
GOLDEN VALLEY -	Automatic Vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	—	1	3	—

NOTE.—*In Return No. 1 the amount and description of stock fitted with two or more descriptions of continuous*

No. 1.

...nd Description of Continuous Brake Power in use on the Passenger Trains ...Railways.

...ontinuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
...ehicles.						Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.							
—	—	—	—	—	—	—	—	—
—	—	2	2	—	—	—	—	Worked in connection with hand brake for ordinary stopping purposes.
—	—	1	—	—	—	—	—	—
2	11	—	—	1	2	3	9	Automatic Vacuum Brake Company's rules.
59	10	23	43	12	—	43	10	— For special rules *see* Appendix.
58	18	—	—	—	—	12	—	—
2	—	—	1	—	—	3	—	Usual Westinghouse rules.
1	—	1	2	—	—	3	—	No special rules except that the brake is not to be used for stopping at terminal stations except on emergency.
—	2 horse boxes 1 hound van 2 cattle trucks.	6	—	—	—	—	—	—
5	—	3	—	4	—	26	22	—
43 vans 16 fish trucks.	12 carriage trucks, 21 horse boxes, 10 meat vans	—	47	3	—	32	—	— For special rules *see* Appendix.
—	—	2	4	—	—	—	—	—
—	—	—	1	—	—	—	—	—

brakes or pipes and connections are printed in italics and not included in total on pp. 26 *and* 27. For Summary, see p. 28.

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Number of Passenger Carriages. Fitted only with Chains, or Pipes and Connections for connecting the Brake.
Great Eastern -	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	530 engines, 254 tenders. *42 are also fitted with apparatus for applying vacuum brake.*	—	2,914 *18 of these are fitted with the vacuum brake gear complete and 46 with vacuum pipes.*	—
Great Northern -	Vacuum automatic -	(1.) The brakes are instantaneous in action and capable of being applied by driver and guards. (2.) No. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	692 engines, 550 tenders.	5 engines, 5 tenders.	2,093 G.N. 163 East Coast Joint Stock, 3 Pullman cars.	14 G.N.
	Westinghouse automatic.	*As above* - - - -	—	—	*69 G. N., 163 East Coast Joint Stock. 2 Pullman cars.*	*203 G. N. 1 Pullman car.*
Great Western	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) * (4.) Yes. (5.) Yes. (6.) Yes.	626 (77 are fitted with apparatus by which guard can apply steam brake to engine and tender wheels.)	1,337 goods engines used occasionally in passenger trains, and are also fitted wth steam brake.	4,400 (6 are also fitted with Westinghouse brake.)	—
						—
Hull, Barnsley, and West Riding Junction.	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	6 engines, 6 tenders.	—	—	—
	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	38 engines, 32 tenders.	—	85	—
Isle of Wight -	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	8	—	36	—
Isle of Wight Central.	Westinghouse and Clark's Chain brake,	(1.) Westinghouse instantaneous in action, applied by guard and engineman. (2.) Self-acting. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes. Clarke's chain brake applied by guard only.	7	—	12	—
Lancashire and Yorkshire.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes.	210 tender, 216 tank, and 442 goods engines for ordinary and special passenger work if required.	—	2,420 and 679 duplicates.	—
	Fay's - -	(1.) Yes, and can be made capable of being applied by driver and guard. (2.) No. (3.) Yes, but they are never applied to more than 5 carriages of a train. (4.) Yes. (5.) Yes. (6.) Yes.	—	—	2	—
	Newall's - -		—	—	—	—

* Capable of being applied by engineman to every vehicle in the train, but by the guard to 77 engines only. The remainder are

NTINUOUS BRAKES.		AMOUNT OF STOCK NOT FITTED WITH CONTINUOUS BRAKES.		AMOUNT OF STOCK FITTED DURING THE ABOVE SIX MONTHS.				Special Rules under which the Continuous Brakes are worked.
hicles.						Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
Fitted ith Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.							
973 *78 of these e also fitted ith vacuum pipes.*	3	—	—	16 engines, 6 tenders.	—	55	—	Drivers are not to rely on continuous brakes when approaching junctions or terminal stations.
306 G.N. East Coast oint Stock, 44 horse oxes, car- age trucks, &c.	30 horse boxes, 12 carriage trucks, 3 parcel, &c. vans, 801 fish, &c. waggons.	—	—	25 engines, 17 tenders.	—	56 G.N. passenger carriages, 18 luggage, &c. vans, 53 horse boxes, &c.	206 waggons 3 carriage trucks, &c.	*See* Appendix.
1 luggage, &c., vans. 23 East Coast Joint Stock	*618 vehicles.*	—	—	—	—	*30 passenger carriages and 18 luggage, &c. vans.*	*12 passenger carriages and 120 horse boxes, carriage trucks, &c.*	—
		Note.—*The stock shown as fitted with the Westinghouse brake is included above.*						
1,286 *10* are also fitted with Vestinghouse pipes and onnections.)	—	—	—	77 engines altered to enable brake to be applied by guard.	56	53	—	For regulations *see* Appendix.
—	25	—	—	—	—	—	—	—
141	25	—	—	4 engines, 1 tender.	—	23	—	—
9	—	—	—	—	—	—	—	—
4	—	2	15	2	—	16	3	In accordance with the Westinghouse and Clarke's Brake Rules generally adopted
391 and 60 duplicates.	—	—	21	40 goods tender engines.	—	44 and 6 duplicates.	—	For copy of printed instructions, *see* Appendix.
3	—	—	—	—	—	—	—	Are not allowed to skid.
2	—	—	—	—	—	—	—	

ing fitted with the necessary apparatus as rapidly as possible. The guards can apply the brake to every vehicle in the train.

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Number of Passenger Carriages. Fitted only with Chains or Pipes and Connections for connecting the Brake.
Lancashire and Yorkshire—*cont.*	Automatic vacuum and Westinghouse.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	—	—	*51* Note.— *54 carriages fitted with complete vacuum automatic brake gear, also the Westinghouse pipe, are included in the number of vehicles fitted with the vacuum automatic brake.* 73 waggons fitted with automatic vacuum brake gear complete and 11 waggons fitted with automatic vacuum pipes only, and 1 fitted with the Automatic vacuum and Westinghouse brake gear complete.	—
Liskeard and Caradon.	WalterParkerSmith's automatic.	(1.) Yes, by guard only. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	—	—	3	—
London and North-Western.	Automatic vacuum	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	1,305 865 engines and tenders and 440 tank engines are fitted with continuous brakes which can be actuated by the guard or in case of a break-away will be applied automatically, and *15* engines are fitted with a separate steam brake, which, however, is actuated by the same handle used for applying the vacuum brake.	99	5,228 (*274 of these are also fitted with the Westinghouse brake.*)	—
London and North-Western and Caledonian. (West Coast.)	Automatic vacuum	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	See Note A.		246 C.	—
London and South-Western.	Vacuum automatic	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	574 engines and 421 tenders.	21 engines	2,154	34

* *Exclusive of the engines also fitted for working automatic vacuum trains.*

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
Vehicles.								
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
91	—	—	—	—	—	*43*	—	—
—	—	3	3	—	—	—	—	—
2,177 (*19 of these are also fitted with the Westinghouse brake.*)	174	*99* (*17* engines and tenders, and *82* tank engines.) Out of this number *15* are fitted with power brake. All the above engines, except *15*, are fitted with screw reversing gear, which enables the driver, when the engine is running at speed, to bring the whole power of the engine on the opposite side of the piston, and thus acts as a powerful brake.	—	166	—	316	—	For special rules *see* Appendix.
140 C.	—	See Note A.		See Note A.		5	—	Same as L. & N.W.
		Note A.—There are no joint engines and tenders, the carriages being worked in the ordinary trains over each Company's line by its own engines and tenders. Note B.—This Return applies to West Coast passenger carriages and other vehicles, so far only as they run over the London and North-western Railway to or from Carlisle. The Caledonian Company will make a separate return of the same stock in respect of their railway north of Carlisle. Note C.—*All these vehicles are fitted with the Westinghouse automatic pressure brake also.*						—
1,158	180	2 engines in consequence of the failure of the regular engine.	—	35 engines and 35 tenders.	—	140	—	For instructions *see* Appendix.

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Enginesand Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Number of Passenger Carriages. Fitted only with Chains or Pipes and Connections for connecting the Brake.
London, Brighton, and South Coast.	Westinghouse continuous automatic air.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	249 tank,* 129 tender. (These include a number of goods engines which occasionally work passenger trains.)	—	2,158	6
London, Chatham, and Dover.	Westinghouse automatic air.	(1.) The brakes are practically instantaneous in action, and can be applied by engine-driver and guards. (2.) Yes. (3.) Yes. (4.) Yes. (5.) The materials generally are of a durable character, except the india-rubber coupling connections. (6.) Yes.	104 engines and tenders, 92 tank engines. (*8 of the engines and tenders are also fitted with apparatus for applying the automatic vacuum brake.*)	—	909 (*12 also fitted with automatic vacuum brake complete, and 5 with pipes only*).	—
Londonderry -	Westinghouse automatic.	(1.) Instantaneous in action. Can be applied by driver and guard. (2.) Yes. (3.) Can be applied to every vehicle of a train. (4.) In daily use. (5.) The materials are of the best kind and kept in order. (6.) Yes.	3 tank engines.	—	19	—
London, Tilbury, and Southend.	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	36	—	297	—
	Clark and Webb's chain.	(1.) Applied by guard. (2.) No. (3.) Yes. (4.) No. (5.) Yes. (6.) Yes.	—	—	8	2
Manchester and Milford.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes, on 3 trains. (4.) Yes. (5.) Yes. (6.) Yes.	4	4	6	2
Manchester, Sheffield, and Lincolnshire.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	229 and 333† goods engines.	8	1,022	1
Manchester South Junction and Altrincham.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	11	—	133	—

* Fifteen engines fitted with automatic vacuum brake to work passenger trains transferred by

† Available for passenger trains

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
Vehicles.								
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
626	24	—	—	6 tanks and 12 tenders Brake taken off 2 tender engine.	—	65 Brakes taken off 32 vehicles.	Pipes taken off 33 vehicles.	*See* Appendix.
199 (*21 vehicles are also fitted with automatic vacuum brake pipes*).	2 lamp carriages, 18 waggons.	—	—	—	—	2	1	*See* Appendix.
2 vans	—	—	—	—	—	—	—	Ordinary rules.
8	6	—	—	—	—	—	—	*See* Appendix.
—	—	—	—	—	—	—	—	—
—	1	2	9	1	—	1	—	—
150	101	—	—	5	—	27	—	—
2	—	—	—	—	—	2	—	The engine-driver must not depend entirely upon the action and power of the brake, but when approaching terminal stations or junctions must have his train so well under control, that it may be brought to a standstill with the hand brake without the use of the vacuum automatic brake, except in cases of emergency. Guards must be at their hand brakes when passing the distant signal for a terminal station, and by the application of their brake assist the drivers to pull up the trains wherever necessary. Guards must keep a vigilant look out for signals, &c., as usual, and be prepared to use their hand brake or the vacuum automatic brake, if necessary.

other Railway Companies, and 226 vehicles with vacuum pipes only for through traffic.
as occasion may require.

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Enginesand Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Number of Passenger Carriages. Fitted only with Chains or Pipes and Connections for connecting the Brake.
Maryport and Carlisle.	Automatic vacuum brake.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) The brake is used for every stoppage except at terminal stations.	14 engines. 14 tenders.	—	52	—
Mawddwy* -	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes, to all with pipes on. (4.) Not yet in use. (5.) Yes. (6.) Not yet in use.	1	—	1	—
Mersey - -	The vacuum continuous automatic brake.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	9 tank engines.	9 tank engines fitted with a steam brake arranged to work automatically with continuous brakes.	97	—
Metropolitan -	Smith's vacuum -	(1.) Practically instantaneous, and capable of being applied by driver only. (2.) No. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	70 tank engines.	—	11	—
	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.		—	345	—
Metropolitan District.	Westinghouse automatic brake.	(1.) Yes. Can be applied by driver and guard. (2.) Yes, in case of breakaway. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Not depended upon when entering a terminus.	54 engines	—	368	—
Midland -	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Some of the materials are durable, others not. (6.) Yes.	—	1,217 (All have automatic steam brakes to engine and tender wheels combined with vacuum automatic brake for train.)	3,103 (including 68 goods vehicles).	378 (including 377 goods vehicles.)
	Westinghouse automatic air.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Some of the materials are durable, others not. (6.) Yes.	17 (*All are fitted also with apparatus for working the vacuum automatic brake.*)	—	164	52 (including 15 goods vehicles).
	Westinghouse automatic air brake on Midland Scotch Joint Stock.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Some of the materials are durable, others not. (6.) Yes.	—	—	65	—
Midland and South-Western Junction.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	—	7	25	—
Neath and Brecon	Automatic vacuum.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) No. (5.) Yes. (6.) Yes.	3	—	10	—

* Although the vacuum brake is fitted as stated it is not yet in use, the

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
Vehicles.								
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
10 brake vans. 4 horse boxes.	2 horse boxes. 6 carriage trucks. 4 cattle waggons.	—	—	—	—	—	4 cattle waggons.	Automatic brake not to be used for stopping at terminal stations.
1	—	1	2	1	—	2	—	—
—	2 vans 1 truck.	—	—	—	—	—	—	*See* Appendix.
—	14 gas-holder trucks and 2 goods vehicles.	—	—	—	—	—	—	*See* Appendix.
4 brake vans 3 horse boxes.	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	*See* Appendix.
1,603	1	—	—	—	34 (all fitted with automatic steam brake to engine and tender wheels combined with vacuum automatic brake for train.)	124 (including 68 goods vehicles).	377 goods vehicles.	*See* Appendix.
70	462	—	—	—	—	3	99 (including 15 goods vehicles.)	*See* Appendix.
20	—	—	—	—	—	—	—	—
—	16	—	—	—	—	—	—	—
1	—	—	—	1 engine	—	—	—	—

arrangements on the engine not being yet sufficiently complete for the purpose.

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with: Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.
North-Eastern	Westinghouse automatic.	(1.) Practically instantaneous, and can be applied by either engine-driver or guards. (2.) It is self-acting. (3.) It is capable of being applied to every vehicle of a train. (4.) It is in regular use in daily working. (5.) The materials used are generally of a durable character, easily maintained, and kept in order. (6.) The brake is used for every stoppage, except when entering a platform with a buffer-stop at the end or at which another train is standing.	449 engines, 264 tenders. 152 goods engines. *See* statement below.	—	2,510	—
	Vacuum automatic brake.	*(1.) Not instantaneous, and can be applied by either engine-driver or guards. (2.) It is self-acting. (3.) It is capable of being applied to every vehicle of a train. (4.) It is in occasional use. (5.) The materials are to a considerable extent of a durable character, easily maintained and kept in order. (6.) The brake is used for every stoppage, except when entering a platform with a buffer-stop at the end or at which another train is standing.*	*6 engines, 6 tenders.*	*36 engines, 36 tenders.*	*114*	*79*
		Note.—*The stock fitted with this automatic vacuum brake is included in stock fitted with Westinghouse brake.*				
North London -	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	64 standards 15 duplicates.	—	*Standards.* 1st class - 120; 2nd class - 132; 3rd class - 138; Composites - 50; Brake-vans - 86; 526. *Duplicates.* 1st class - 22; 2nd class - 37; 3rd class - 49; Composites - 16; Brake-vans - 24; 148.	
North Staffordshire.	Vacuum - -	(1.) Yes. Driver only. (2.) No. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	35 tender engines, with vacuum brake on tender and steam brake on engine.	55 (31 tank engines and 24 goods tank engines) fitted with steam brakes.	24	—
	Westinghouse -	(1.) Yes. Driver only. (2.) No. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	—	—	—	6

Supplementary Statement to the above No. 1 Return.—The Company have 152 goods engines which run excursion and other occasional passenger trains, and these are fitted with the Westinghouse brake gear complete (4 of them have been fitted during the half year).

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
Vehicles.						Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.							
917	2	—	—	12 engines, 12 tenders.	—	43 carriages, 19 other vehicles.	—	*See* Appendix.
		Note.—The carriages above referred to do not include those belonging jointly to the East Coast companies which mainly compose the express and fast trains running between London and Scotland, and which are fitted with continuous brakes.						
39	*493*	—	—	—	*12 engines, 12 tenders.*	*29 carriages, 21* other vehicles.	—	*See* Appendix.
The Company have 1,336 vehicles (which are not included in their passenger stock, but which run occasionally with passenger trains) fitted with brakes or brake connecting pipes, as below :— 19 with Westinghouse brake gear complete. 1,317 with Westinghouse brake connecting pipes, and *1,141 of these are also fitted with the automatic vacuum brake connecting pipes* 1,336 Total.								
—	—	—	—	*Standards.* 2	—	*Standards.* 1st class 1 2nd class 7 3rd class 1 Compos. 7 Bke. vans 9 25 *Duplicates.* 1st class 1 2nd class 1 3rd class 2 Compos. 3 7	—	*See* Appendix.
10	—	—	28 cattle waggons.	—	4 goods tank engines (steam brake on engines).	—	—	*See* Appendix
—	3	—	—	—	—	—	—	—

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages.	
					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.
North Staffordshire—*cont.*	Automatic vacuum -	(1.) Yes; applied by driver and guard. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	39 engines and tenders with steam brake on engine and automatic brake on tender.	—	200	51
North Wales Narrow Gauge.	Westinghouse automatic continuous brake is in process of being fitted to the rolling stock.	(1.) Yes. (2.) Yes. (3.) All vehicles are not yet fitted. (4.) Not yet in regular use. (5.) Yes. (6.) Yes. When in use.	13	—	8	—
Pembroke and Tenby.	Automatic vacuum brake.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	3 engines, 2 tenders.	1 tender	13	—
Pontypridd, Caerphilly, and Newport.	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) (5.) Yes. (6.) Yes.	1	—	4	—
Ravenglass and Eskdale.	No continuous brakes.	——	—	—	—	—
Rhondda and Swansea Bay.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	9 tank	—	36	—
Rhymney - -	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	17 tank engines, 4 tender engines. 2 tender engines. Brake applied to tender wheels. Steam brake on engine wheels.	7	59	—
Severn and Wye and Severn Bridge.	Automatic vacuum -	(1.) Yes (2.) Yes. (3.) Yes, except in the case of mixed trains. (4.) Yes. (5.) Yes. (6.) Yes.	5	—	16	2

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				
Vehicles.								
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.		Special Rules under which the Continuous Brakes are worked.
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
73	84	—	—	3 goods tender engines.	—	32 (including 31 converted from simple vacuum and pipes only to automatic complete).	32	—
—	—	—	4	1	—	4	—	—
5	—	4 engines, 2 tenders.	8	2 engines, 1 tender.	1 tender	18	—	—
—	—	—	—	—	—	—	—	—
—	—	2	4	—	—	—	—	—
1 horse-box	1 low-sided carriagetruck.	—	—	—	—	—	—	—
8 partly brake vans and partly 3rd class. 8 brake vans. 1 carriage truck, 1 horse-box.	—	—	—	1 tank engine	—	—	Guards and drivers are at all times to satisfy themselves that the brake is in proper order, and to make use of the continuous brake on every occasion for regulating the stoppage of trains. On approaching terminal stations the continuous brake must only be used in cases of emergency, the driver taking care to reduce the speed of his train so that it can be brought to a stand by the hand brake of the engine or tender alone.	
1	13	—	—	—	—	—	—	The ordinary regulations as to application of the vacuum brake.

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages.	
					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.
Somerset and Dorset Joint Committee	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Some of the materials are durable, others not. (6.) Yes.	—	58 (including 16 tank engines, all fitted with automatic steam brakes to engine and tender wheels combined with automatic vacuum brake for train.)	130 (*8 have connecting pipes for Westinghouse brake.*)	—
South-Eastern -	Automatic vacuum -	(1.) Instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Self-acting. (3.) Yes. (4.) Yes. (5.) Some durable, others not very durable. (6.) Not used at terminal stations.	325 engines, 226 tenders. (*4 engines are also fitted with Westinghouse pumps and pipes.*)	—	1,473	37 (*besides 35 vehicles also fitted with simple vacuum brake.*)
	Smith's vacuum -	(1.) Nearly instantaneous in action, and capable of being applied by engine-driver only. (2.) Not self-acting. (3.) Yes. (4.) Yes. (5.) Some durable, others not very durable. (6.) Not used at terminal stations.	—	—	55	43 *excluding 861 vehicles also fitted with automatic brake.*
Southwold - -	No continuous brakes	—	—	—	—	—
Taff Vale - -	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes (5.) Yes. (6.) Yes.	42 engines, 6 tenders.	—	217	—
Talyllyn - -	No continuous brakes.	—	—	—	—	—
West Lancashire -	Westinghouse automatic continuous.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	11 engines 7 tenders.	—	42	4
West Somerset Mineral.	No continuous brakes.	—	—	—	—	—
Wirral - -	Automatic vacuum brake.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	8	—	20	—
Wrexham, Mold, and Connah's Quay.	Automatic vacuum brake.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	8	—	33	—
		Total for England and Wales -	7,310	2,883	35,647	666

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				
Vehicles.								
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.		Special Rules under which the Continuous Brakes are worked.
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
52	—	—	—	—	—	4	—	*See* Appendix.
254	*253* (*besides 41 vehicles also fitted with simple vacuum brake.*)	—	38 (exclusive of 290 fitted with through pipes for connecting the automatic brake *234* of the *290* are also fitted with through pipes for simple vacuum brake *and included in the quantity shown below.*	21 engines, 17 tenders.	4 engines with Westinghouse pumps.	176	1	—
42	214 (*besides 74 vehicles fitted with automatic brake.*)	—	71 (257 also fitted with pipes for connecting the simple brake).	—	—	—	—	—
—	—	3	26	—	—	—	—	—
67	—	—	—	1 engine	—	—	—	20 inches of vacuum is maintained and for station stops this is worked down to 13 inches, the balance being available for emergencies.
—	—	2	4	—	—	—	—	The brake is used for every stoppage.
7	4	2	—	1 engine, 1 tender.	—	24	—	-
—	—	1	3	—	—	—	—	—
10	—	—	17	—	—	—	—	—
1	—	—	—	—	—	—	—	The usual rules for working automatic vacuum brake.
11,464	2,301	62	353	455	100	1,485	767	

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with: Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.
SCOTLAND.						
Caledonian - -	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes (6.) *See* rules.	284 tender and 60 tank engines.	—	1,565	—
	Vacuum and Westinghouse combined.	*(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes.* (6.) *See rules.*	—	*9 engines and tenders fitted to work automatic vacuum.*	*50*	—
Glasgow and South-Western.	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) No restriction regarding use of brakes except when stopping at terminal stations.	94 and 4 tank	*(Of the foregoing 90 engines and tenders and 4 tank engines are fitted to work automatic vacuum brake trains.)*	304	—
	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes (4.) Yes. (5.) Yes. (6.) No restriction regarding use of brakes except when stopping at terminal stations.	72 and 16 tank	—	511 (*25 of these are also fitted to work the Westinghouse automatic brake*).	—
Great North of Scotland.	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes, except at terminal stations.	63 and 7 tank	—	285	15
Highland -	Newall's continuous hand.	(1.) Not instantaneous in action, and can only be applied by guard. (2.) No. (3.) No. (4.) Yes. (5.) Yes. (6.) Yes.	—	—	60	—
	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	86	—	219	8
	Westinghouse -	*(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.*	—	*1*	*26*	*9*
North British -	Westinghouse automatic air.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	246 (149 engines have air brake fitted to wheels of engines and tender, 81 tender engines to wheels of engine, and 16 engines to wheels of tender only).	19	2,008	3
Portpatrick and Wigtownshire Joint Committee.	*The stock working on these railways is provided by the Caledonian and Glasgow by those Companies, except* - - - - - - -		1	—	1	—
		Total for Scotland - -	933	19	4,953	26

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				
Vehicles.								
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tender (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.		Special Rules under which the Continuous Brakes are worked.
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
784 brake-vans, horse-boxes, &c.	88 brake vans, horse-boxes, &c.	—	—	11 tender and 2 tank.	—	25 carriages, 23 brake-vans, &c.	9 brake vans, horse boxes, &c.	*See* Appendix.
480	*15*	—	—	—	—	*3 carriages, 10 brake-vans, &c.*	—	—
38	—	—	—	—	—	27	—	—
302 (*Of these 12 brake vans, 5 horse boxes, and 17 carriage trucks, are also fitted with the Westinghouse automatic brake.*)	—	—	—	24	—	34 (*Of these 5 horse boxes are also fitted with the Westinghouse automatic brake.*)	—	*See* Appendix.
325	3	6 (4 of these are tender engines fitted with steam brake applied to 4 coupled wheels of engine.)	15	1 and 2 tank engines.	—	213	—	*See* Appendix.
39	—	—	—	—	—	—	—	—
93	342	11	—	—	1	17	—	—
11	*233* (*7 with vacuum brake complete and 223 with piping*).	—	—	—	—	—	*125*	—
460	307	—	—	32	19	117	54	*See* Appendix.
and South-Western Railway Companies, is all fitted with continuous brakes, and included in the return to the Board of Trade supplied								
—	4	—	—	1	—	—	—	—
2,041	744	17	15	73	20	456	63	

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Enginesand Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages.	
					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.
IRELAND.						
Ballycastle -	No continuous brakes.	——	—	—	—	—
Belfast and County Down.	Vacuum automatic -	(1.) to (5.) Yes. (6.) Yes, except at terminal stations.	24 engines. 14 tenders.	—	129	—
Belfast and Northern Counties.	Vacuum automatic -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes, except at terminals.	45 engines and 17 goods engines for ordinary and special passenger work if required.	—	210	3
Bessbrook and Newry.	Continuous brakes not adaptable to electric cars.	——	—	—	—	
Castlederg and Victoria Bridge.	Westinghouse automatic.	(1.) Yes. (2.) Yes. (3.) Yes, when exclusively passenger. (4.) Yes. (5.) Yes. (6.) Yes.	3	—	5	—
Cavan, Leitrim, and Roscommon Light.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	8	—	12	—
Clogher Valley -	Automatic vacuum -	(1.) to (6.) Yes - - -	6	—	13	—
Cork and Macroom Direct.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes, to all passenger carriages and brake vans. (4.) Yes. (5.) Yes. (6.) Yes, except terminals.	4 tank engines	—	10	1
Cork and Muskerry Light.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes, to all carriages used for the conveyance of passengers. (4.) Yes. (5.) Yes. (6.) Yes, except terminals.	6	—	19	—
Cork, Bandon, and South Coast.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) On some trains. (4.) Yes. (5.) Yes. (6.) Yes, except for terminals.	11 tank	—	31	—
Cork, Blackrock, and Passage.	Automatic vacuum -	(1.) Action of brakes almost instantaneous, and capable of being applied by engine driver or guard. (2.) Self-acting. (3.) Applied to every vehicle in train. (4.) In regular use in daily working. (5.) Materials good, easily kept in order. (6.) Used every stoppage, except terminals.	3	—	12	2
Donegal, Section I., Strabane to Stranorlar.	——	——	Engine power supplied by Great Northern Railway Company (Ireland), whose engines are fitted with automatic brakes.		—	—
Donegal, Section II., Stranorlar to Donegal.	——	——	—	—	—	—
Dublin, Wicklow, and Wexford.	Automatic vacuum brake.	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	29 tank and 23 tender engines.	—	177 carriages and 27 vans.	8 carriages

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				
Vehicles.								
Other Vehicles used for Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.		Special Rules under which the Continuous Brakes are worked.
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.					Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
—	—	3	11	—	—	—	—	—
1 carriage truck, 9 brake-vans, 3 horse-boxes.	5 horse-boxes and 19 waggons.	—	—	—	—	—	—	As issued by the Vacuum Brake Company, Limited.
41	25	—	—	1 engine	—	3 and 5 altered from pipes to brakes.	1	*See* Appendix.
—	—	2 electro-motive passenger cars.	27	—	—	—	—	—
2 vans	23 goods waggons.	—	—	—	—	—	—	—
110 waggons, 6 brake-vans.	3 ballast, 2 timber trucks, 2 horse-boxes.	—	—	—	—	—	—	*See* Appendix.
6 brake vans	—	—	—	—	—	—	—	As issued by Vacuum Brake Co.
3 vans	—	—	3 carriages, 1 van, 83 waggons.	1	—	1 van, 6 carriages.	3	Vacuum brake is not to be used for ordinary stoppages on mixed trains of more than six waggons. It is, however, to be coupled up, and a vacuum maintained to be used in case of emergency.
—	6 vans	—	54 goods and cattle waggons.	—	—	—	—	—
10 vans, 3 horse-boxes.	—	2 tank	1 horse-box, 3 carriage trucks.	2	—	3 horse-boxes	—	*See* Appendix.
2	—	—	2	3	—	14	2	*See* Appendix.
—	—	—	5 carriages and 29 waggons.	—	—	—	—	—
—	—	3	11 carriages and 48 waggons.	—	—	—	—	—
11 horse-boxes, 2 carriage trucks, and 6 perishable goods vans.	4 horse-boxes and 3 carriage trucks.	—	—	1 tank engine	—	9 horse-boxes and 4 perishable goods vans.	—	—

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company, and in use on Passenger Trains on Lines worked by them.	(1.) Whether the Brakes are instantaneous in action, and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of durable character, easily maintained, and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with			
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Enginesand Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages. Fitted with Brake Gear complete.	Number of Passenger Carriages. Fitted only with Chains or Pipes and Connections for connecting the Brake.
Dundalk, Newry, and Greenore.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	5	—	12	—
Great Northern -	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes.	90	—	396	—
Great Southern and Western.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Yes, except terminals.	92 15 goods engines.	—	318	—
Londonderry and Lough Swilly.	Automatic vacuum -	(1.) Instantaneous. (2.) Yes. (3.) Yes. (4.) Generally. (5.) Yes. (6.) Yes.	4	—	18	—
Midland Great Western of Ireland.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes, except to those fitted with pipes only. (4.) Yes. (5.) Yes. (6.) Yes, except at junctions and terminals.	57 automatic	—	172	—
Sligo, Leitrim, and Northern Counties.	Smith's vacuum -	(1.) Yes, applied by drivers only. (2.) No. (3.) Yes, if all are coupled. (4.) Yes. (5.) Yes. (6.) Yes.	5	—	15	—
Tralee and Dingle Light.	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes.	4	—	9	—
Waterford and Central Ireland.	Vacuum automatic (in use on one train).	(1.) Yes. (2.) Yes, when vehicles become disconnected. (3.) Yes. (4.) On one train. (5.) Yes. (6.) Yes, on the train, fitted.	3	—	20	—
Waterford and Limerick.	Automatic vacuum -	*See* copy Rules - - -	25	—	48	—
Waterford and Tramore.	No continuous brakes.	——	—	—	—	—
Waterford, Duncarvan, and Lismore.	Automatic vacuum -	——	2 engines and tenders.	—	—	—
West Carbery -	Automatic vacuum -	(1.) Instantaneous. Driver only. (2.) Yes. (3.) Yes, to every passenger carriage, not to goods or cattle trucks. (4.) Yes. (5.) Yes. (6.) Nearly so.	4	—	5	—
West Clare -	Automatic vacuum -	(1.) Yes. (2.) Yes. (3.) Yes. (4.) Yes. (5.) Yes. (6.) Not at terminals, except on emergency.	7 tank.	—	18	—
		Total for Ireland - -	492	—	1,676	14
		* Total for the United Kingdom	8,735	2,902	42,276	706

* Note. - These totals are the numbers of engines and carriages returned by the railway companies as fitted with continuous brakes. It will be observed, however, that some of the brakes so returned but very imperfectly fulfil that designation.

Continuous Brakes.		Amount of Stock not fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
Vehicles.						Number of Passenger Carriages and other Vehicles used for Passenger Trains.		
Other Vehicles used or Passenger Trains.		Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Trains.	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.	
Fitted with Brake Gear complete.	Fitted only with Chains or Pipes and Connections for connecting the Brake.							
10	—	—	—	—		—	—	—
172	—	—	—	—	—	110	—	—
242	—	—	—	—	—	6	—	*See* Appendix.
4	4	2	—	3	—	16	4	Same as Belfast and Northern Counties.
56 brake-vans, 60 horseboxes, 25 cattleboxes, 4 P.O. vans.	55 brake-vans, horse-boxes, &c.	—	—	—	—	21 cattle boxes	—	*See* Appendix
1 horse-box	—	—	—	—	—	—	—	—
34	—	—	—	—	—	—	—	—
12	—	7	13	3	—	32	—	*See* Appendix.
18 vans 8 horse-boxes, 15 waggons.	49 waggons, 7 horse-boxes, 1 cattle truck.	14	36	1	—	6 carriages 2 vans, 1 horse-box.	—	*See* Appendix.
—	—	4	15 carriages and 2 composite brake-vans and 1 guard's van.	—	—	—	—	—
—	—	4 tender, 1 tank.	18 carriages and 3 vans.	—	—	—	—	—
4	2	—	—	—	—	—	—	—
73	—	—	—	—	—	—	—	—
953	210	42	366	15	—	239	10	
14,458	3,255	121	734	543	120	1,980	840	

EXTRACT from the FOREGOING RETURN showing the NUMBER of ENGINES, PASSENGER and other VEHICLES used for PASSENGER TRAINS which were fitted with TWO or MORE descriptions of CONTINUOUS BRAKES to provide for running Through Trains, and for interchange of Traffic.

NAME OF RAILWAY COMPANY.	Name of Brakes fitted to the Stock enumerated in Columns 4 to 7.		AMOUNT OF STOCK FITTED WITH BRAKES IN DUPLICATE.			
			Engines fitted complete.	Engines fitted with Apparatus for working the Brake.	Vehicles fitted complete.	Vehicles fitted with Pipes and Connections only.
(1.)	(2.)	(3.)	(4.)	(5.)	(6.)	(7.)
GREAT EASTERN - -	Westinghouse automatic	Vacuum - -	—	42	18	724
GREAT NORTHERN - -	Automatic vacuum -	Westinghouse - -	—	—	338	822
GREAT WESTERN - -	Automatic vacuum -	Westinghouse - -	—	—	6	10
HULL, BARNSLEY, AND WEST RIDING JUNCTION.	Westinghouse automatic	Automatic vacuum -	—	—	—	23
LANCASHIRE AND YORKSHIRE	Automatic vacuum -	Westinghouse - -	—	—	146	54
LONDON AND NORTH-WESTERN.	Automatic vacuum -	Westinghouse - -	—	—	293	—
WEST COAST JOINT STOCK -	Automatic vacuum -	Westinghouse - -	—	—	386	—
LONDON, CHATHAM, AND DOVER.	Westinghouse - -	Automatic vacuum -	—	8	12	26
MIDLAND - - -	Westinghouse -	Automatic vacuum -	—	17	—	—
NORTH-EASTERN - -	Westinghouse automatic	Automatic vacuum -	6	36	153	572
	Westinghouse (pipes only).	Automatic vacuum -	—	—	—	1,141
SOMERSET AND DORSET -	Automatic vacuum -	Westinghouse - -	—	—	—	8
SOUTH-EASTERN - -	Automatic vacuum -	Smith's vacuum -	—	—	—	935
	Automatic vacuum (pipes and connections only).	Smith's vacuum -	—	—	76	234
CALEDONIAN - - -	Westinghouse automatic	Vacuum - - -	—	9	560	15
GLASGOW AND SOUTH-WESTERN.	Westinghouse automatic	Automatic vacuum -	—	94	59	—
HIGHLAND -	Automatic vacuum -	Westinghouse -	—	1	37	242
		TOTAL - -	6	207	2,084	4,808

No. 2.

RETURN for Six Months ending on the 30th day of June 1893, of all CASES in which CONTINUOUS BRAKES have failed to act when required to be brought into Action, or have caused delay in the working of trains on Railways.

No. 2.

RETURN for Six Months ending on the 30th day of June 1893, of all CASES in which CONTINUOUS BRAKES have failed to act when required to be brought into Action, or have caused delay in the working of trains on Railways.

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay in any of the instances asked for in Column 4.	3. Date of Failure.	4. Instances under the three following heads separately, of :— 1. Failure or partial failure to act when required in case of an accident to a train, or a collision between trains being imminent. 2. Failure or partial failure to act under ordinary circumstances to stop a train when required. 3. Delay in the working of trains in consequence of defects in, or improper action of, the Brakes, distinguishing whether they arose from neglect or inexperience of servants, or failure of machinery or material.	5. Number of Miles run by Trains fitted with each description of Continuous Brake.
ENGLAND AND WALES.				
Barry - -	—	No failures reported.	—	Automatic Vacuum Brake. 32,768 miles.
Brecon and Merthyr -	—	No failures reported.	—	Fay's Hand Brake. 2,325 miles.
	—	No failures reported.	—	Vacuum Automatic Brake. 76,658 miles.
Cambrian - -	—	No failures reported.	—	Automatic Vacuum Brake. 186,620 miles.
Cheshire Lines Committee.	The Vacuum Automatic. (Engines supplied by Manchester, Sheffield, and Lincolnshire and Midland Railway Companies. *See* Return No.1.)		1. and 2. Nil. 3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	Automatic Vacuum Brake. 971,551 miles.
		Jan. 1	2.18 p.m. Gateacre to Liverpool. At Cressington and St. Michaels brake difficult to release. Leakage caused by coupling not being properly placed on plug at rear end of train. Neglect of staff.	
		„ 5	10.30 p.m. Irlam to Manchester. Approaching Manchester. Brake difficult to release. Ball valves on engine No. 314 frozen.	
		Feb. 25	1.25 p.m. Liverpool to Southport. At West Derby.	
		„ 25	4.0 p.m. Southport to Liverpool. At stations on journey. Brake difficult to release. Hose pipe between engine and tender No. 435 collapsed from ordinary wear and tear.	
		Apr. 20	11.0 p.m. Manchester to Liverpool. At starting cylinder piston on tender of engine No. 128 stuck owing to rolling ring twisting. Ordinary wear and tear.	
		„ 29	7.28 a.m. Manchester to Chester. Between Altrincham and Chester. Clappet valve washer failed from ordinary wear and tear. Engine No. 314.	
		May 20	9.45 p.m. Chester to Manchester. Between Chester and Tarvin brake applied itself. Small train pipe connection to cylinder of engine No. 220 broke from ordinary wear and tear.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Cheshire Lines Committee—*cont.*	The Vacuum Automatic—*cont.*	June 17	5.33 p.m. Liverpool to Warrington. At Otterspool cylinde. pistcn on tender of engine No. 424 stuck owing to rolling ring twisting Ordinary wear and tear.	
		„ 22	9.50 p.m. Manchester to Liverpool. At starting, cylinder piston on Midland van No. 171 leaking. Detached.	
Colne Valley and Halstead.	—	No failures reported.	—	Westinghouse Automatic Brake. 30,300 miles.
Corris - - -	—	No failures reported.	—	Vacuum Automatic. 4,740 miles.
East and West Junction.	—	No failures reported.	—	Westinghouse Automatic Brake. 58,660 miles. Vacuum Brake, 8664.
Furness - -	—	No failures reported.	—	Automatic Vacuum. 325,598 miles.
Golden Valley - -	—	No failures reported.	—	Automatic Vacuum. 12,157 miles.
Great Eastern - -	Westinghouse Brake. (530 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	5,622,298 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 3	Collar broke off on pipe from pump to main reservoir on engine No. 752, near Whittlesford.	
		„ 4	Collar broke off on pipe from main reservoir to driver's valve on engine No. 784, at Bishopsgate.	
		„ 12	Collar broke off on pipe from pump to main reservoir on engine No. 0706, near Melton.	
		„ 14	Flexible pipe burst on T.C.C. No. 991, near Bentley.	
		„ 23	Flexible pipe burst on horse-box No. 144, near Takeley.	
		„ 30	Collar broke off on pipe from pump to main reservoir on engine No. 729, near Newport.	
		Feb. 7	Flexible pipe burst on T.C.C. No. 381, near Bartlow.	
		„ 8	Collar broke off on pipe from pump to main reservoir on engine No. 795, at Bishopsgate.	
		„ 11	Inner skin of flexible pipe gave way, and partially blocked the passage, on engine No. 679, at Romford.	
		„ 11	Flexible pipe burst on composite carriage No. 490, at Marks Tey.	
		„ 17	Flexible pipe burst on composite carriage No. 102, at Shenfield.	
		„ 22	Collar broke off on pipe from pump to main reservoir on engine No. 731, at Harold Wood.	
		„ 25	Flexible pipe burst on horse-box No. 349, near St. Paul's Road.	
		Mar. 2	Flexible pipe burst on milk-van No. 10, at Mark's Tey.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Great Eastern—*cont.* -	Westinghouse Brake—*cont.*	Mar. 4	Union nut slacked back on main pipe on engine No. 730, near Ely.	
		„ 7	Inner skin gave way and partially blocked the passage in flexible pipe on engine No. 796, near Cheshunt.	
		„ 8	Collar broke off pipe from pump to main reservoir on engine No. 729, near Reedham.	
		„ 8	Flexible pipe burst on S.C.C. No. 409, at Liverpool Street.	
		„ 13	Flexible pipe burst on brake-van No. 115, at Bethnal Green.	
		„ 14	Packing washer defective in flexible pipe on brake-van No. 250, at Fenchurch Street.	
		„ 17	Flexible pipe burst on T.C.C. No. 24, near Coltishall.	
		„ 21	Flexible pipe burst on carriage truck No. 78, near Bramford.	
		„ 23	Collar broke off pipe from main reservoir to driver's valve on engine No. 784, near Halesworth.	
		„ 24	Flexible pipe burst on carriage truck No. 21, near Flordon.	
		„ 29	Flexible pipe burst on composite carriage No. 493, at Littleport.	
		Apr. 1	Collar broke off pipe from main reservoir on engine No. 726, between Wickham Market and Melton.	
		„ 3	Nut slacked back on pipe from main reservoir to driver's valve on engine No. 475, near Orwell.	
		„ 4	Flexible pipe burst on T.C.C. No. 341, at Beccles.	
		„ 11	Flexible pipe burst on brake-van No. 381, near Buxton Lamas.	
		„ 17	Flexible pipe burst on horse-box No. 247, at Cambridge.	
		„ 20	Collar broke off pipe from pump to main reservoir on engine No. 0702, near Halifax Junction.	
		„ 20	Flexible pipe burst on S.C.C. No. 221, near Bethnal Green.	
		„ 21	Collar broke off pipe from main reservoir on engine No. 0704, at Ilford Goods Yard.	
		„ 24	Flexible pipe burst on engine No. 428, at Hornsey Road.	
		„ 25	Collar broke off pipe from pump to main reservoir on engine No. 365, at Chingford.	
		„ 27	Flexible pipe burst on carriage truck No. 65, near Snape Junction.	
		May 10	Flexible pipe burst on composite carriage No. 83, at Melton.	
		„ 11	Collar broke off pipe from pump to main reservoir on engine No. 0344, near Black Drove.	
		„ 12	Collar broke off pipe from driver's valve to three-way piece on engine No. 764, at Stratford.	
		„ 12	Flexible pipe burst on horse-box No. 67, at Finningley.	
		„ 13	Flexible pipe burst on T.C.C. No. 535, at Bethnal Green.	
		„ 13	Flexible pipe burst on F.C.C. No. 14, at Woolwich.	
		„ 14	Flexible pipe burst on T.C.C. No. 26, near Ingatestone.	
		„ 15	Collar broke off pipe from driver's valve to three-way piece on engine No. 768, near Billeirclay.	
		„ 15	Collar broke off pipe from main reservoir to driver's valve on engine No. 784, at Saxmundham.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Great Eastern—*cont.*	Westinghouse Brake—*cont.*	May 16	Collar broke off pipe from pump to main reservoir on engine No. 717, near Ardleigh.	
		„ 20	Collar broke off pipe from pump to main reservoir on engine No. 759, near Hatfield Peverel.	
		„ 22	Flexible pipe burst on T.C.C. No. 79, at Lowestoft.	
		„ 23	Union nut slacked back on main pipe on engine No. 723, near Whittlesford.	
		„ 25	Collar broke off pipe from pump to main reservoir on engine No. 763, near Bealings.	
		„ 30	Flexible pipe burst on T.C.C. No. 863, at Cambridge.	
		„ 31	Flexible pipe burst on horse-box No. 351, at Ely.	
		June 1	Flexible pipe burst on brake-van No. 409, near Harold Wood.	
		„ 4	Collar broke off pipe from pump to main reservoir on engine No. 763, near Harold Wood.	
		„ 4	Flexible pipe burst on brake-van No. 244, near Broxbourne.	
		„ 7	Flexible pipe burst on F.C.C. No. 383, at Bramford.	
		„ 10	Flexible pipe burst on horse-box No. 121, at Chatteris.	
		„ 12	Flexible pipe burst on composite carriage No. 496, at Broxbourne.	
		„ 13	Flexible pipe burst on composite carriage No. 69 near Ely.	
		„ 13	Flexible pipe burst on brake-van No. 85, near Elmswell.	
		„ 13	Flexible pipe burst on brake-van No. 286, at St. Botolphs.	
		„ 14	Flexible pipe burst on composite carriage No. 305, near Wymondham.	
		„ 14	Flexible pipe burst on tender No. 776, near Gosberton.	
		„ 15	Flexible pipe burst on brake-van No. 384, at Ponder's End.	
		„ 16	Flexible pipe burst on carriage truck No. 40, near Ilford.	
		„ 16	Flexible pipe burst on composite carriage No. 351, at Grassmore Junction.	
		„ 17	Flexible pipe burst on S.C.C. No. 242, at Colchester.	
		„ 20	Collar broke off pipe from pump to main reservoir on engine No. 571, at Colchester.	
		„ 21	Collar broke off pipe from driver's valve to main pipe on engine No. 751, near Whittlesea.	
		„ 27	Union nut slacked back on main pipe on engine No. 720, at Ardleigh.	
		„ 27	Flexible pipe burst on carriage truck No. 26, near Stowmarket.	
		„ 27	Collar broke off pipe from driver's valve to main pipe on engine No. 768, near Romford.	
	Vacuum -	No failures reported.	——	11,906 miles.
			Brake Failures on "Foreign Stock" working over the G.E.R. Co.'s System.	
	Westinghouse Brake.	Feb. 2	Flexible pipe burst on London and North-Western Railway horse-box No. 58, at Long Melford.	
		„ 16	Flexible pipe burst on Great Northern Railway horse-box No. 1319, at North Hall signal-box.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5 Number of Miles run by Trains fitted with Continuous Brakes.
Great Eastern—*cont.*	Westinghouse Brake—*cont.*	Feb. 20	Flexible pipe burst on London and North-Western Railway horse-box No. 39, at Bury.	
		,, 23	Flexible pipe burst on Midland Railway horse-box No. 341, at King's Dyke.	
		,, 27	Flexible pipe burst on Great Northern Railway horse-box No. 1241, near Spalding.	
		Apr. 16	Flexible pipe burst on Great Northern Railway break-van No. 184, at Bessacar.	
		,, 24	Flexible pipe burst on Great Northern Railway horse-box No. 1237, at Dullingham.	
		May 18	Flexible pipe burst on Great Northern Railway horse-box No. 2511, at Murrow.	
		June 17	Flexible pipe burst on Great Northern Railway carriage truck No. 1390, at March.	
Great Northern	The Vacuum Automatic. (697 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	4,648,986 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 2	Eleven minutes delay at Hatfield to down train No. 504, owing to connecting pipe washer of carriage brake No. 756 being defective.	
		,, 2	Five minutes delay at Codnor Park to up train No. 19, owing to blocks of third carriages No. 760 and 1869 being frozen to wheels.	
		,, 4	Three minutes delay at Nottingham to down train No. 148, owing to connecting pipe washer of engine No. 260 failing.	
		,, 5	Nine minutes delay at York to up train No. 125, owing to snow and ice working between the connecting pipes of carriages.	
		,, 14	Sixteen minutes delay at Peterborough to up train No. 483, owing to drip valves of carriages being affected by the frost.	
		,, 23	Three minutes delay at Rockingham to up train No. 46, owing to chamber pipe of carriage No. 1989 breaking.	
		Feb. 14	Two minutes delay at Grantham to down train No. 450, owing to neck ring of carriage being too large.	
		,, 20	Six minutes delay at Huntingdon to up train No. 483, owing to flexible pipe from chamber to cylinder of engine No. 544 breaking.	
		,, 23	Ten minutes delay at Peterborough to down train No. 286, owing to neck rings being defective, piston washer worn, and connecting pipe washer being out of position of break No. 542 and compo. No. 1686.	
		,, 25	Three minutes delay at King's Cross Suburban to down train No. 263, owing to release valve washer of third No. 2039 splitting.	
		Mar. 2	Three minutes delay between Finsbury Park and Highgate to down train No. 378, owing to connecting pipe of engine No. 529 being defective.	
		,, 10	Six minutes delay at Bramley to down train No. 313/6, owing to hose connection of engine No. 583 collapsing.	

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Great Northern —*cont.*	The Vacuum Automatic—*cont.*	Mar. 11	Eleven minutes delay between Carlton and Retford to down train No. 452, owing to connecting pipes of engine No. 478 bulging.	
		,, 18	Four minutes delay at Doncaster to down train No. 146/2, owing to defective sack of third brake No. 2335.	
		,, 31	Nine minutes delay at Louth to up train No. 23, owing to connecting pipe of Great Eastern fish truck No. 67 being defective.	
		Apr. 4	Twenty minutes delay between Hatfield and Twentieth Mile to down train No. 305, owing to chamber pipe of engine No. 542 being broken by an obstruction on the line.	
		,, 13	Seven minutes delay at Gildersome to down train No. 66/4, owing to train pipe of engine No. 332 cracking.	
		,, 19	Three minutes delay at Doncaster to down train No. 690, owing to connecting pipe of North Eastern van No. 408 being rusty.	
		,, 30	Six minutes delay at Doncaster to down train No. 629, owing to connecting pipe of engine No. 240 being out of order.	
		May 12	Nine minutes delay at Radcliffe to up train No. 13, owing to connecting pipe of fish truck No. 27,449 being out of order.	
		,, 13	Five minutes delay at Leeds to up train No. 187/2, owing to piston of third No. 749 being disconnected.	
		June 6	Four minutes delay at Peterborough to up train No. 417, owing to defective miniature sack of third No. 2365.	
		,, 6	Fifteen minutes delay at Retford to up train No. 125, owing to neck ring of third No. 57 being defective.	
		,, 22	Eighteen minutes delay at Sibsey to E.L. down train No. 20, owing to piston of compo. No. 264 being disconnected.	
		,, 27	Nineteen minutes delay at Biggleswade to down train No. 286, owing to connecting pipe of tender No. 19 being defective.	
		,, 29	Six minutes delay at Grimsby to up train No. 22, owing to connecting pipe of fish truck No. 9497 being defective.	
		,, 29	Eighteen minutes delay at Bradford to up train No. 143/4, owing to connecting pipe of carriage brake being defective.	
Great Western - -	Automatic Vacuum Brake (Sanders and Bolitho's). (2,013 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	9,149,830 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 3	Fourteen minutes delay running between Grange Court and Lydney, owing to release valve of compo. No. 1039 sticking up.	
		,, 4	Thirteen minutes delay running between Oxford and Cholsey, owing to release valve of milk truck No. 743 sticking up.	
		,, 5	Six minutes delay at Tavistock, owing to cast iron gland of third-class carriage No. 381 being broken.	

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Great Western—*cont.*	Automatic Vacuum Brake (Sanders & Bolitho's) —*cont.*	Jan. 8	Five minutes delay at Maindee Jct owing to flexible hose pipe of rear vehicle not fitting properly on stop plug owing to an accumulation of ice on plug.	
		,, 9	Six minutes delay running between Reading and Oxford, owing to release valve of passenger brake van No. 761 sticking up.	
		,, 9	Three minutes delay at Yeovil, owing to release valve of passenger brake van No. 565 sticking up.	
		,, 11	Four minutes delay running between Yatton and Puxton, owing to cylinder bottom cover of compo. No. 1358 breaking.	
		,, 12	Twenty minutes delay at Didcot, owing to nut of pump valve of engine No. 476 working off.	
		,, 13	Four minutes delay at Taunton, owing to nuts of gland studs of parcel van No. 786 working loose.	
		,, 13	Three minutes delay at St. Fagans, owing to cylinder bottom cover of compo. No. 22 breaking, and three minutes delay at Bridgend. Delay at Bridgend inserting blank washer.	
		,, 14	Two minutes delay at Great Malvern, and two minutes delay at Ledbury owing to release valve of brake of third class No. 1752 sticking up.	
		,, 17	Five minutes delay at Camborne owing to release valve of fish truck No. 963 sticking up.	
		,, 23	Four minutes delay at Leamington, owing to cylinder of third-class carriage No 2135 splitting.	
		,, 26	Four minutes delay at Newnham, owing to release valve of third-class carriage No. 2287 sticking up.	
		,, 27	Seven minutes delay running between Bristol and Taunton, and six minutes delay at Taunton owing to cylinder of compo. No. 980 splitting.	
		,, 27	Three minutes delay at Chepstow, and two minutes delay at Brigend. Brake could not be released. Temporary defect. Probably one of the brake setters stuck up.	
		Feb. 2	Four minutes delay at Stroud. Brake could not be released. Temporary defect. Probably one of the brake setters stuck up.	
		,, 4	Three minutes delay at Loudwater, and two minutes delay at Bourne End. Brake could not be released. Probably something got under under the regulating valve of pump of engine No. 983.	
		,, 13	Four minutes delay running between Wootton Bassett and Swindon, and four minutes delay at Swindon, owing joint of air pump of engine No. 72 blowing out.	
		,, 17	Three minutes delay at Chippenham, owing to gland studs of third-class No. 497 breaking.	
		,, 22	Three minutes delay at Cowley Bridge, owing to pipe leading from pump to main pipe of engine No. 3017 breaking.	
		,, 22	Three minutes delay at Cardiff, owing to ejector of engine No. 824 being defective.	

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Great Western—*cont.*	Automatic Vacuum Brake (Sanders and Bolitho's) —*cont.*	Feb. 22	Five minutes delay running between Bath and Swindon, owing to air pipe of engine No. 3235 being being defective and air pump valve leaking.	
		„ 24	Five minutes delay at Bristol, owing to joint of air pump of engine No. 3001 blowing out.	
		Mar. 1	Three minutes delay running between Exeter and Plymouth, owing to air pipe of engine No. 3204 splitting.	
		„ 4	Five minutes delay at Keynsham, owing to bridge pipe of pump of engine No. 3021 breaking.	
		„ 9	Six minutes delay at Didcot, owing to india-rubber diaphragm of slip comp. No. 1070 splitting.	
		„ 13	Seventeen minutes delay running between Slough and Challow, owing to failure of air pipe of engine No. 3014.	
		„ 15	Four minutes delay running between Bristol and Taunton, owing to cast-iron gland of milk-van No. 696 breaking.	
		„ 17	Three minutes delay running between Oxford and Banbury, owing to india-rubber gland of compo. No. 979 being defective.	
		„ 20	Three minutes delay at Truro, owing to branch pipe leading to cylinder of fish-waggon No. 534 breaking.	
		April 4	Three minutes delay at Ruscombe, owing to bridge pipe of pump of engine No. 3207 breaking.	
		„ 4	Three minutes delay at Ross, owing to release valve of horse-box No. 325 sticking up.	
		„ 8	Four minutes delay at Smethwick Junction, owing to release valve of fish-truck No. 435 sticking up.	
		„ 9	Three minutes delay at Hayes and three minutes delay at Slough, owing to leakage caused by hose-pipe of engine No. 2353 not fitting properly owing to lug breaking off.	
		„ 14	Slight delay at several stations, owing to exhaust cone of ejector of engine No. 586 breaking off and sticking in end of exhaust pipe.	
		„ 18	Three minutes delay at Carmathen Junction, owing to cylinder top cover of fish-waggon No. 952 breaking.	
		„ 21	Five minutes delay at Cardiff, owing to cylinder top cover of horse-box No. 82 breaking.	
		„ 25	Eight minutes delay at Wellington, owing to brake blocks binding on wheels of Cambrian Co.'s horse-box No. 220 between Salop and Wellington owing to brake lever having been placed in "simple" position. Delay putting vehicle off.	
		„ 26	Ten minutes delay at Swindon, owing to flexible hose-pipe of Taff Vale Co.'s carriage-truck No. 307, being defective.	
		May 3	Three minutes delay running between West Drayton and Swindon, owing to ram of air pump of engine No. 1131 breaking.	
		„ 9	Four minutes delay at Thame, owing to cylinder top cover of milk-van No. 617 splitting.	
		„ 10	Four minutes delay at Truro owing to piston gland of 3rd cl. No. 1766 defective.	

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Great Western—*cont.*	Automatic Vacuum Brake (Sanders and Bolitho's) —*cont.*	May 15	Nine minutes running between New Milford and Cardiff, and nine minutes delay at Cardiff, owing to copper pipe leading to cylinder breaking Compo. No. 842.	
		,, 16	Eight minutes delay at Moreton in the Marsh, owing to union nut of copper pipe of horse-box No. 577 working loose.	
		,, 19	Four minutes delay at Saltash, owing to cylinder cover of fruit van No. 47,885 splitting.	
		,, 22	Six minutes delay at Castle Hill, owing to piece of cotton waste getting under ejector check valve of engine 1406.	
		,, 24	Three minutes running between Taunton and Wellington, owing to compo. No. 801 gland leaking.	
		,, 27	Three minutes delay at Pangbourne, owing to release valve rods of horse box No. 506 bent.	
		,, 28	Eight minutes delay at Cardiff, owing to cylinder top cover of P.B. van No. 145 being defective.	
		,, 31	Four minutes delay at Swindon, owing to release valve of P.B. van No. 77 sticking up.	
		June 1	Six minutes delay at Moreton and 2 minutes delay at Honeybourne, owing to C. I. gland of 3rd class No. 1657 breaking.	
		,, 3	Three minutes delay at Ealing, owing to flexible hose-pipe of compo. No. 701 breaking.	
		,, 10	Four minutes running between Paddington and Swindon, owing to valves of pump of engine No. 3003 in dirty condition.	
		,, 13	Five minutes running between Bristol and Bridgewater, owing to fish truck No. 42,564 being attached at Bristol, and pipes not properly coupled up.	
		,, 17	Eleven minutes running between Bristol and Hereford, and 11 minutes delay at P. Pool Road, and eight minutes delay at Hereford, owing to cylinder cover of P.B. van No. 807 splitting. Delays at P. Pool Road and Hereford, examining train.	
		,, 19	Nine minutes delay at Totnes, owing to cylinder cover joint of 3rd class No. 2824 leaking.	
		,, 19	Nine minutes running between Yeovil and Swindon, owing to continuous pipe of compo. No. 1317 leaking at joint.	
		,, 21	Slight delay at Stratton, owing to cylinder gland of 3rd class No. 280 defective.	
		,, 22	Five minutes delay at Cardiff, owing to branch copper pipe of bk. compo. No. 778 splitting. Delay inserting blank washer.	
		,, 22	Five minutes delay at Leamington, owing to gland stubs of saloon No. 700 breaking. Delay putting vehicle off.	
		,, 24	Five minutes delay at Oxford, owing to C. I. gland of 3rd class No. 2162 breaking. Delay inserting blank washer.	
		,, 25	Two minutes running between Grampound Road and St. Austell, and eight minutes delay at Par, owing to cylinder cover of meat van No. 47,976 breaking.	
		,, 27	Four minutes delay at Newport, owing to nut of air valve of pump of engine No. 3207 working off.	

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Hull, Barnsley, and West Riding Junction Railway and Dock Company.	—	No failures reported.	——	Westinghouse Automatic Brake. 2,497 miles.
	Automatic Vacuum Brake. (38 engines fitted. *See* Return No. 1.)	Jan. 25	1. Nil. 2. *Failure or partial failure to act under ordinary circumstances to stop a train when required.* No. 16 down passenger train failed to stop at Beverley Road Station in consequence of dirt getting on ball valve of vacuum brake on engine No. 29. 3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	175,609 miles.
		„ 6	Brake leaked on at Gowdal Junction, causing 3 minutes delay to No. 38 up passenger train in consequenec of vacuum brake pipe leaking on passenger brake van No. 11.	
Isle of Wight - -	Westinghouse Automatic Brake. (8 engines fitted. *See* Return No. 1.)		1 and 2. Nil. 3 *Delay in the working of trains in consequence of defects in or improper actio of brakes.*	59,778 miles.
		Mar. 30	Seven minutes delay at Ryde. Neglect of servant.	
		May 13	Two minutes delay at Ryde to No. 24. Fault in action of brake.	
		June 20	One minute delay at Brading to No. 43. Fault in action of brake.	
Isle of Wight Central -	—	No failures reported.	——	Westinghouse Brake. 63,198 miles.
Lancashire and Yorkshire.	Automatic Vacuum Brake (868 engines fitted. *See* Return No. 1)		1 and 2. Nil. 3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	4,712,931 miles.
		Jan. 1	The 7.40 p.m. Atherton to Victoria was delayed 19 minutes at Wardley by the vacuum piston on engine 658 sticking owing to frost.	
		„ 1	The 4.57 p.m. Rochdale to Sowerby Bridge was delayed 14 minutes at Eastwood by the vacuum piston sticking on engine 890 owing to frost and rolling ring being twisted.	
		„ 2	The 9.0 p.m. Todmorden to Preston was delayed 5 minutes at Blackburn by the vacuum piston sticking on engine 51 owing to the rolling ring being twisted.	
		„ 5	The 9.5 a.m. Victoria to Church Fenton was delayed 6 minutes at Castleton by the vacuum piston sticking on engine 840 owing to frost.	
		„ 6	The 9.15 a.m. Bradford to Halifax was delayed 4 minutes at Low Moor by engine 244 being unable to release the brake on the train owing to the main vacuum pipe being frozen.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c., under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Lancashire and Yorkshire—*cont.*	Automatic Vacuum Brake —*cont.*	Jan. 10	The 6.5 p.m. train, Normanton to Manchester, delayed at Mirfield owing to the piston sticking on third-class 1652. Cause not ascertained.	
		,, 19	The 6.0 p.m. train, Liverpool to Southport, delayed on the journey owing to the piston sticking on third-class 1469. Cause not ascertained.	
		,, 21	The 6.23 a.m. train, Ramsbottom to Bacup, delayed at Ewood Bridge owing to the piston sticking on third-class and van 1559. Cause not ascertained.	
		,, 30	The 10.20 a.m. Victoria to Southport lost 2 minutes in running owing to the small I.R. pipe leaking under the tender of engine 836.	
		Feb. 6	The 9.50 a.m. Halifax to Holmfirth was delayed 4 minutes at Lockwood by the vacuum piston sticking on engine 62. Cause unknown.	
		,, 6	The 6.10 p.m. train, Skipton to Accrington, delayed at Rose Grove owing to the piston sticking on third-class 1469. Cause not ascertained.	
		,, 25	The 4.10 p.m. Colne to Victoria was delayed 4 minutes at Salford by the thread stripping on the vacuum piston spindle of engine 819.	
		,, 27	The 5.40 p.m. Victoria to Blackpool was delayed 16 minutes at Lostock Lane by the tender vacuum piston sticking on engine 898 owing to the rolling ring being twisted.	
		,, 28	The 9.40 a.m. Rishworth to Sowerby Bridge was delayed 13 minutes at Ripponden by the vacuum piston sticking on engine 984 owing to frost.	
		,, 28	The 7.35 a.m. Victoria to York was delayed 7 minutes at Sowerby Bridge by the vacuum piston sticking on engine 905 owing to the I.R. pipe being defective.	
		Mar. 18	The 12.5 p.m. Victoria to Chorley was delayed 9 minutes at Bolton by the clappit valve failing on engine 664.	
		,, 20	The 8.50 p.m. Bolton to Rochdale was delayed 2 minutes at Bradley fold by the clappit valve failing on engine 428.	
		Apr. 5	The 9.15 a.m. train, Southport to Liverpool, delayed on the journey owing to the piston sticking on composite 111. Cause not ascertained.	
		May 2	The 10.0 a.m. Victoria to Liverpool was delayed 13 minutes at Hindley by the main vacuum pipe breaking on engine 839.	
		June 3	The 2.40 p.m. York to Victoria was delayed 5 minutes at Todmorden by the large ejector failing on engine 998.	
		,, 15	The 5.5 p.m. train, Manchester to Bacup, delayed at Queen's Road Bridge owing to the piston sticking on van 211. Cause not ascertained.	
Liskeard and Caradon	--	No failures reported.	——	Walter Parker Smith's Automatic Brake. 4,681 miles.

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
London and North-Western.	Automatic Vacuum Brake. (1,404 engines fitted. *See* Return No. 1.)		1 Nil.	9,789,995 miles.
			2. *Failure or partial failure to act under ordinary circumstances to stop a train when required.*	
		Jan. 6	The 6.8 p.m. train from Broad Street to Watford partially overran the platform at Dalston Station (North London Railway) in consequence of the brakes failing to act properly. Due to ice having got into the hose-pipe on the vehicle next to the engine.	
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 2	The 5.40 p.m. train from Crewe to Preston was stopped out of course at Winwick Quay, owing to the engine being unable to maintain the necessary vacuum. Due to an accumulation of ice and snow on the stopper of a horse-box, which prevented the pipe seating properly, thus causing a leakage.	
		,, 2	The 6.15 a.m. train from Stafford to Rugby was delayed at Tamworth, owing to the engine being unable to recreate the necessary vacuum, consequent on the stuffing-box on carriage No. 888 having been pulled off the nipple of the brake cylinder. Failure of material.	
		,, 3	The 2.42 a.m. train from Wigan to Manchester was stopped out of course at Weaste, owing to the brakes going on. Due to the vacuum-pipe in the smoke-box of the engine having burst. Failure of material.	
		,, 10	The 6.35 p.m. train from Llandovery to Craven Arms was stopped out of course at Sugar Loaf signal-box, owing to the engine being unable to maintain the necessary vacuum. Due to the washer having worn off the large ejector, of the engine, and to the back valve and the $\frac{3}{8}$-in. screw having come out of the clack-valve and got under the front valve of the large ejector. Failure of material.	
		,, 18	The 7.40 p.m. train from Patricroft to Manchester was delayed at Cross Lane station, consequent on the engine being unable to release the brakes. Due to the stuffing-boxes under two of the vehicles leaking slightly owing to the packing-rings being defective. Failure of material.	
		,, 25	The 6.55 p.m. train from Craven Arms to Swansea was delayed at Knighton and Knucklas stations. The engine was unable to re-create the vacuum, owing to an iron washer and screw from the bottom of one of the clacks getting into the torpedo chamber. Failure of material.	
		,, 25	The 6.9 p.m. train from Mansion House to Broad Street was delayed at Blackfriars, Temple, and Westminster Bridge stations (Metropolitan District Railway). The engine was unable to re-create the vacuum, owing to a washer having come off one of the valves and got into the large ejector. Failure of material.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
London and North-Western—*cont.*	Automatic Vacuum Brake —*cont.*	Feb. 7	The 8.0 p.m. train from Preston to Carnforth was delayed at Preston and Bay Horse stations, owing to a difficulty in re-creating the vacuum. Due to one of the iron pipes on the engine having broken. Failure of material.	
		,, 9	The 10.48 a.m. train from Crewe to London lost time in running up to Stafford, the engine having a difficulty in maintaining the necessary vacuum, owing to the packing having blown out of the nut of the large ejector. Failure of material.	
		,, 18	The 8.41 p.m. train from Carlisle to London was delayed at Carnforth, owing to a difficulty in maintaining the vacuum. Caused by the vacuum reservoir under Caledonian Railway brake van No. 175 having shifted out of its place. Failure of material.	
		,, 20	The 10.25 p m. train from Normanton to Crewe was delayed at Huddersfield and Stockport stations, owing to a difficulty in re-creating the vacuum. Due to the piston-rod of the brake cylinder on parcel van No. 13 being worn. Failure of material.	
		,, 22	The 11.30 a.m. train from Holyhead to London was delayed at Chester and lost time in running thence to Crewe, owing to the engine being unable to maintain the necessary vacuum. Due to the drip-cock under the ejector on the engine having broken off the small copper pipe and allowed the cock to work out. Failure of material.	
		,, 25	The 2.15 p.m. train from Leamington to Birmingham was delayed in starting, and also at Warwick, owing to the engine being unable to create the necessary vacuum. Due to a valve in the brake apparatus on the engine not having been fixed properly. Neglect of engine-fitter.	
		Mar. 31	The 6.10 p.m. train from Stafford to Birmingham lost time in running between Wolverhampton and Dudley Port, and was delayed at the latter station, owing to the engine being unable to maintain the necessary vacuum. Due to a nut on the reducing-valve of the engine slackening back. Failure of material.	
		Apr. 22	The 11.55 p.m. train from Liverpool to London lost time in running from Rugby to Willesden, owing to a difficulty in maintaining the necessary vacuum. Due to the miniature sack on brake van No. 153 having given way. Failure of material.	
		,, 26	The 10.10 a.m. train from Chester to Denbigh was delayed at Padeswood, the engine being unable to re-create the vacuum, owing to a small piece of india-rubber having got into, and blocking up, the torpedo ejector. Failure of material.	
		May 19	The 10.48 a.m. train from Blackburn to Wigan was brought to a stand by signals shortly after leaving Blackburn station, and the engine was unable to re-create the vacuum, owing to the escape-valve being out of order. Failure of material.	

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London and North-Western—*cont.*	Automatic Vacuum Brake —*cont.*	May 20	The 1.5 p.m. train from from Derby to Birmingham was brought to a stand between Willington and Hargate, owing to the brakes going on, consequent on the engine not maintaining the necessary vacuum. The train afterwards lost time in running, from the same cause. Due to some packing having got into the large ejector of the engine. Failure of material.	
		,, 24	The 10.0 a.m. train from Euston to Carlisle was delayed at Crewe, owing to the engine being unable to create the vacuum. Due to a piece of brass having got into the cone of the torpedo ejector. Failure of material.	
		June 3	The 6.35 p.m. train from Llandovery to Craven Arms was delayed at Cynghordy, owing to the engine being unable to maintain the necessary vacuum. Due to the brake cylinder of Great Western Railway milk van No. 957 having broken. Failure of material.	
		,, 6	The 7.12 a.m. train from Chester to Denbigh was brought to a stand at Star crossing, Nannerch, owing to the engine being unable to maintain the necessary vacuum, consequent on the packing in the bottom of the vacuum steam-pipe having blown out. Failure of material.	
		,, 11	The 11.40 a.m. train from Holyhead to Chester was delayed at Bangor, owing to a difficulty in maintaining the vacuum. Due to a leakage at the miniature sack under Post Office tender No. 7. Failure of material.	
London and North-Western and Great Western Joint Railways.		,, 13	The 7.15 a.m. train from Birkenhead to West Kirby was delayed at Bebington owing to a difficulty in re-creating the vacuum. Due to a derangement in the vacuum brake ejector of the Great Western Railway engine which was working the train. Failure of material.	
London and South-Western.	Vacuum Automatic Brake. (595 engines fitted. *See* Return No. 1.)		1 and 2 Nil.	4,719,311¾ miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 2	Six minutes delay at Waterloo. Flexible pipes between composite carriages Nos. 203 and 122 opening, owing to frost.	
		,, 3	Slight delay at Waterloo. Ice in connecting pipe between engine and tender.	
		,, 4	Four minutes delay at Vauxhall. Flexible pipes between Nos. 120 second and 362 third-class carriages opening, owing to frost.	
		,, 5	Two minutes delay at Guildford. Flexible pipes between Nos. 94 and 97 composite carriages opening, owing to frost.	
		,, 10	Five minutes delay at Ludgate Hill. Lugs of joint-casting of No. 152 milk-van broken off.	
		,, 16	Six minutes delay at Waterloo. Flexible pipes between Nos. 473 and 474 first-class carriages opening, owing to frost.	

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London and South-Western——*cont*	Vacuum Automatic Brake —*cont.*	Jan. 16	Two minutes delay at Barnstaple. Split-pin and washer of truss-bar of No. 667 third-class carriage missing.	
		,, 17	Three minutes delay at Waterloo. Brake of No. 272 composite carriage adjusted too tightly.	
		,, 31	Six minutes delay at Barnstaple. Thread of adjusting rod of No. 173 passenger van stripping.	
		Feb. 16	Eight minutes delay at Chard. Flexible pipe of No. 8153 meat-van broken.	
		,, 23	Seven minutes delay at Eastleigh. Vacuum pipe of tender broken.	
		,, 26	Fourteen minutes delay at Brookwood. Defective cylinder ring on No. 161 third-class brake.	
		Mar. 10	Three minutes delay at Yeovil Junction. No. 422 composite carriage block hanger-pin missing. Inexperience of servants.	
		,, 17	Four minutes delay at Eastleigh. Joint on main train pipe under foot-plate of engine giving out.	
		,, 21	Six minutes delay at Weybridge. No. 515 third-class carriage branch pipe broken.	
		,, 22	Two minutes delay at Exeter. No. 59 passenger luggage-van cylinder-ring defective.	
		,, 25	Five minutes delay at Exeter. No. 407 third-class brake hung up, owing to cylinder-ring being jammed.	
		,, 29	Four minutes delay at Reading. Engine cloth getting into main train pipe of No. 54 bogie first-class carriage.	
		May 20	One minute delay at Surbiton. Branch pipe of No. 421 bogie composite carriage broken.	
		June 4	Six minutes delay at Woking. No. 120 composite carriage branch pipe broken.	
		,, 8	Fifteen minutes delay at Andover Junction. No. 1 passenger luggage-van branch pipe broken off main train pipe.	
		,, 12	Three minutes delay at Worplesdon. Piston rod of No. 93 passenger brake-van falling out of cylinder.	
		,, 12	Two minutes delay at Teddington. No. 129 composite carriage branch pipe broken.	
		,, 13	Seven minutes delay at Waterloo. No. 154 composite carriage branch pipe broken.	
		,, 27	Seven minutes delay Eastleigh. Hot tyre on No. 225 passenger guard's van.	
London, Brighton, and South Coast.	Westinghouse Continuous Automatic Air Brake. (378 engines fitted. *See* Return No. 1.)		1. Nil.	3,591,821 miles.
			2. *Failure or partial failure to act under ordinary circumstances to stop a train when required.*	
		June 16	7.45 a.m. Sutton to London Bridge train overshot the platform at Wallington Station (where it was booked to stop) by a train's length, tap omitted to be opened when engine was coupled to train.	
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 2	6.5 p.m. Wimbledon to West Croydon delayed 3 minutes. Donkey pump air delivery pipe (reservoir end) broke.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
London, Brighton, and South Coast—*cont.*	Westinghouse Continuous Automatic Air Brake—*cont.*	Jan. 2	7.10 a.m. Brighton to Tunbridge Wells delayed 2 minutes at Falmer. Brake on one of the carriages apparently frozen.	
		„ 2	9.31 a.m. London Bridge to Brighton. delayed 3 minutes at London Bridge. Hose coupling on one of the carriages broken.	
		„ 5	5.25 a.m. Victoria to London Bridge delayed 10 minutes on the journey releasing brake at station, which apparently went on through frost being in the pipes.	
		„ 5	7.0 a.m. Victoria to London Bridge delayed 3 minutes on the journey. Brake went on apparently owing to frost being in the pipes.	
		„ 6	8.1 a.m. London Bridge to Newhaven delayed 5 minutes at London Bridge. Hose-coupling on No. 246 brake-van broken.	
		„ 17	6.54 a.m. Victoria to West Croydon delayed 7 minutes between Victoria and Clapham Junction. Slide-valve of triple on one of the carriages worn.	
		„ 20	9.48 a.m. London Bridge to Battersea Park delayed 2 minutes at Peckham Rye. Donkey-pump worked slowly, apparently owing to the lower main valve ring being broken.	
		„ 23	5.34 a.m. London Bridge to Sutton delayed 5 minutes on the journey, apparently owing to slide-valve of triple of one of the carriages being worn.	
		Feb. 8	1.50 p.m. Portsmouth to London Bridge delayed 5 minutes at Cheam. Donkey-pump reversing piston rod broke.	
		„ 13	8.45 a.m. Portsmouth to London delayed 1 minute at Portsmouth Town. Hose coupling on No. 171 compo. burst.	
		„ 20	8.5 a.m. Midhurst to Chichester delayed 2 minutes between Singleton and Lavant. Hose coupling on No. 29 horse-box burst.	
		„ 23	2.46 p.m. London Bridge to Sutton delayed 4 minutes between North Dulwich and Tulse Hill. Hose coupling on engine burst.	
		„ 25	7.26 a.m. London Bridge to East Croydon delayed 4 minutes at New Cross. Donkey pump reversing piston rod and rings broken.	
		„ 28	1.16 p.m. London Bridge to Wimbledon delayed 5 minutes at South Bermondsey. Hose coupling between two of the carriages burst.	
		Mar. 1	1.50 p.m. Portsmouth to London Bridge delayed 3 minutes at Portsmouth. Truss rod on brake-van defective.	
		Apr. 9	10.20 a.m. East Croydon to Victoria delayed 3 minutes at Clapham Junction. Hose coupling on No. 753 Midland Company's composite carriage burst.	
		„ 16	8.50 p.m. Victoria to East Croydon delayed 7 minutes at Victoria. ½-in. cock in main pipe of Pullman car "Beatrice" broken off.	
		June 7	12.19 p.m. Lewes to Seaford delayed 4 minutes at Sound Bridge. Hose coupling on engine burst.	
		„ 23	6.1 p.m. London Bridge to Brighton delayed 4 minutes between London and Dorking. Copper main air delivery pipe worn through.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
London, Brighton, and South Coast—*cont.*	—	No failures reported.	—	Automatic Vacuum brake. 2,594 miles.
London, Chatham, and Dover.	Westinghouse Continuous Automatic Air Brake. (196 engines fitted. *See* Return No. 1.)		1. Nil.	1,847,506 miles.
			2. *Failure or partial failure to act under ordinary circumstances to stop a train when required.*	
		Feb. 21	7.23 p.m. St. Pauls to Beckenham. Overshot platform at Elephant and Castle three coach lengths, cock not being opened on second coach from engine.	
		Mar. 20	12.30 p.m. Gravesend to Victoria. Overshot platform at Kent House 3 coach lengths through shunter shutting cock of carriage truck attached at Beckenham by mistake.	
			3. *Delay in the working of trains in consequence of defects in or improper action of the brake.*	
		Jan 18	10.38 p.m. Swanley to Victoria. Seven minutes late in starting, defective hose pipe washer on engine.	
		„ 30	5.35 p.m. Victoria to Bickley. Five minutes at Battersea Park releasing brake on No. 102 first-class. Fault of engineman.	
		Feb. 2	6.15 p.m. Victoria to Hendon. 20 minutes late in starting changing engines and waiting signals, reversing piston of pump jammed in the bush caused by particle of dirt or scale from the boiler.	
		„ 4	2.15 p.m. Victoria to Crystal Palace. 3 minutes between Brixton and Denmark Hill, coupling hose burst between engine and tender.	
		„ 14	7.30 p.m. Loughboro' to Beckenham. 10 minutes at Sydenham Hill through coupling hose bursting on No. 92 second-class, and causing breakage of coupling.	
		„ 15	3.50 p.m. Dover to Victoria. 5 minutes at Penge defective hose pipe washers No. 86 first class.	
		Mar. 18	5.15 p.m. Victoria to Ramsgate. 7 minutes changing engines at Faversham, collar of copper pipe leading from air pump to main reservoir broke off.	
		„ 24	5.50 p.m. Barnet to Victoria. 10 minutes at King's Cross attaching Great Northern horse-box, and having to detach it through leaky hose coupling.	
		„ 25	9.0 a.m. Victoria to Sevenoaks 3 minutes between Herne Hill and Dulwich through coupling hose bursting on No. 85 first class.	
		„ 30	9.32 p.m. Special Victoria to Chatham. Five minutes at Bickley ballast pit, through copper pipe leading from train pipe to pressure gauge breaking.	
		April 1	5.15 p.m. Victoria to Ramsgate. Five minutes at Whitstable, triple valve spring broke of No. 87 third class.	
		„ 3	8.0 a.m. Ramsgate to Victoria. Eight minutes delay through coupling hose bursting at one end, and the other leaking at clip where fastened on to the nozzle, No. 351 third class. Couplings broken at Margate.	
		„ 3	10.0 p.m. Victoria to New Brompton. Five minutes between Herne Hill and Sydenham Hill. Fault of engineman.	

1. Name of Railway Company.	2. Name or Description of brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
London, Chatham, and Dover—*cont.*	Westinghouse Continuous Automatic Air Brake—*cont.*	April 19	1.30 p.m. Victoria to Dover. Four minutes between Meopham and Sole Street coupling hose burst No. 99 third class.	
		May 6	1.40 p.m. St. Pauls to Bickley. Two minutes late in starting, reversing piston of pump broken.	
		,, 19	10.0 a.m. Dover to London. Four minutes at Faversham changing engine retaining valve spring broken in brake valve.	
		June 11	9.15 a.m. Holborn to Sevenoaks. Five minutes late in starting, leaky hose pipe washer on No. 116 third class.	
		,, 17	5.25 p.m. Dover to Victoria. Two minutes through ½″ cock under foot plate breaking.	
		,, 19	8.40 p.m. Faversham to Victoria. Eight minutes at Bromley through coupling hose bursting on No. 25 horse-box.	
		,, 20	8.15 p.m. Victoria to Dover. Eight minutes through bolt working out of reversing valve plate which became jammed in the piston and top of cylinder.	
		,, 24	8.50 p.m. Gravesend to Victoria. Five minutes between Southfleet and Farningham through brake going on No. 25 second. Cannot say cause.	
		,, 29	7.35 p.m. Ramsgate to Victoria. Seven minutes between Ramsgate and Margate. Fault of engineman.	
	Automatic Vacuum Air Brake. (8 engines fitted. *See* Return No. 1.		1 and 2 Nil.	
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
			2.0 p.m. Special Great Western Factory Junction to Chatham. Six minutes through pipes leaking at joint between No. 523 and 203 third class, iron connection of hose coupling worn.	1,071 miles
Londonderry - -	- - -	No failures reported.	——	Westinghouse Automatic Brake. 19,632 miles.
London, Tilbury, and Southend.	Westinghouse Automatic Brake. (36 engines fitted. *See* Return, No. 1.)		1 and 2. Nil.	419,500 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Feb. 21	9.0 p.m. train Tilbury to Upminster. Three minutes delay at Tilbury owing to defective hose pipe on No. 3 break-van.	
		Mar. 20	7.23 a.m. train Fenchurch Street to Barking. Two minutes delay. Driver unable to release brakes owing to insufficient air pressure.	
		April 20	1.23 p.m. train Tilbury to Fenchurch Street. Three minutes delay near Barking owing to top joint of hose coupling on engine No. 6 blowing out and applying the brakes.	
		June 8	9.58 a.m. train Romford to Grays. Air pump failed at Grays through piston rod and rings breaking on engine No. 5. No delay.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Manchester and Milford.	—		——	Automatic Vacuum Brake. 20,913½ miles.
Manchester, Sheffield, and Lincolnshire.	Vacuum Automatic Brake. (229 engines fitted, and 333 goods engines available for passenger trains as occasion may require. *See* Return No. 1.)		1 and 2 Nil.	1,947,933 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 2	9.5 a.m. Nottingham to Sheffield. At Tibshelf and Eckington. Brake difficult to release. Cylinder piston on engine No. 550 stuck, owing to rolling ring twisting. Ordinary wear and tear.	
		,, 2	11.50 a.m. Nottingham to Sheffield. Between Nottingham and Daybrook. Brake difficult to keep off. Hose pipes frozen, and causing a slight opening between couplings.	
		,, 19	5.15 p.m. Hull to Liverpool. At Godley. Blocks on North-Eastern carriages Nos. 87, 88, and 127 difficult to release, owing to leakage in train pipe.	
		,, 27	3.15 p.m. Doncaster to Penistone. At West Silkstone Junction. Brake applied itself. Ejector steam pipe collar broke off on engine No. 188. Ordinary wear and tear.	
		Mar. 14	5.15 p.m. Hull to Liverpool. On journey. Leakage in ejector of engine No. 89 due to overpacking. Neglect of staff.	
		June 8	1.0 p.m. Lincoln to Cleethorpes. At starting. Hose coupling between engine and tender No. 425 collapsed from ordinary wear and tear.	
		,, 28	6.5 a.m. Barnsley to Penistone. At Dodworth. Brake difficult to release. Cylinder piston on brake-van No. 511 stuck, owing to rolling ring twisting. Ordinary wear and tear.	
Manchester South Junction and Altrincham.	- - -	No failures reported.	——	Automatic Vacuum Brake. 115,766 miles.
Maryport and Carlisle	- - -	No failures reported.	——	Automatic Vacuum Brake. 95,165 miles.
Mersey Railway -	Vacuum Automatic Continuous Brake. (18 engines fitted. *See* Return No. 1.)		1. Nil.	143,351 miles.
			2. *Failure or partial failure to act under ordinary circumstances to stop a train when required.*	
		Jan. 2	The 4.48 p.m. up train from Park to Liverpool overran platform at Hamilton Square two coach lengths, owing to train pipe between second and third coaches not having been coupled up when coaches were attached at Park Station. Neglect of servants.	
			3. *Delay in the working of trains in consequence of defects in or improper action of the brake.*	
		,, 13	Five minutes delay to 8.45 a.m. up train Birkenhead Central, owing to coupling between ejector and vacuum chamber on No. 16 engine, giving way. Failure of material.	

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Metropolitan	Smith's Vacuum Brake. (70 engines fitted (including those fitted with automatic brakes. *See* Return No. 1.)		1. Nil.	440,228 miles.
			2. *Failure or partial failure to act under ordinary circumstances to stop a train when required.*	9,130 trains.
		May 10	An up train overran Shepherd's Bush platform five coach lengths through the driver having the steam cock of the ejector of No. 14 engine closed; consequently he was unable to obtain any vacuum. A delay of one minute ensued in setting back.	
			3. Nil.	
	Automatic Vacuum Brake. (For engines fitted. *See* above.)		1. Nil.	599,194 miles.
			2. *Failure or partial failure to act under ordinary circumstances to stop a train when required.*	92,354 trains.
		June 3	An up train overran Kilburn Station half a coach length through a leakage of air into the vacuum chamber of No. 47 engine. A delay of half a minute ensued in setting back.	
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Feb. 13	A down train was brought to a stand between Baker Street and St. John's Wood Road Stations, assumed to have been caused by the rubber ring on the piston of No. 155 coach jamming. A delay of 20 minutes ensued.	
		May 3	A down train was delayed four minutes at King's Cross Station releasing the carriage valves, the driver of No. 25 engine being unable to attain to the vacuum left in the chamber by an engine that had been exchanged.	
		„ 11	After having stopped at a danger signal exhibited from New Cross staff signal-box the driver of No. 28 engine with an up train could not blow off, his brake being short of steam. A delay of three minutes ensued. Fault of servant.	
		June 8	After having stopped at a danger signal at South Kensington Junction with an up circle train the driver of No. 58 engine could not blow off his brake being short of steam. A delay of two minutes ensued. Fault of servant.	
		„ 16	An up circle train was brought to a stand at Princes Street signal-box, the driver being unable to keep the brake off, having allowed No. 42 engine to get low in steam. A delay of three minutes ensued.	
Metropolitan District		No failures reported.	—	Westinghouse Automatic Brake. 778,905 miles.

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Midland - -	Vacuum Automatic Brake. (1,217 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	6,952,062 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 5	7.8 a.m. train from Leicester to London. 3 minutes delay near St. Albans, disconnecting pipe on van No. 282, the coupling washing becoming defective.	
		Feb. 13	12.50 a.m. train from Derby to Leeds. 9 minutes delay at Sheffield detaching engine No. 1756 with leakage at union nut of pipe, through wear and tear.	
		Apr. 28	6.45 a.m. train from London to Bedford. 10 minutes delay in running from London to Bedford, owing to defect in pipe of bogie composite No. 668. Neglect of servant.	
		May 5	3.15 p.m. train from Bristol to York. 3 minutes delay at Bredon, where train was stopped by metal pipe on engine No. 110 breaking, through wear and tear.	
		„ 11	7.0 p.m. train from Bristol to Birmingham. 19 minutes delay at Gloucester examining and detaching North-Eastern van No. 213, the brake cylinder having become detached from piston rod, through nut slackening.	
	Westinghouse Automatic Air Brake (17 engines fitted. *See* Return No. 1.)		1. and 2. Nil.	2,673 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		May 21	11.0 p.m. excursion train from Manfield to Carlisle. 10 minutes delay at Lenton North Junction, where train was stopped by rear hose pipe of composite carriage No. 425 bursting.	
Midland and South-Western Junction. - - -		No failures reported.	——	Automatic Vacuum. 109,274 miles.
Neath and Brecon - - - -		No failures reported.	——	Automatic Vacuum. 14,514 miles.
North-Eastern - -	The Westinghouse Automatic Brake.		1. and 2. Nil.	5,806,869 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 2	8.25 p.m. train, South Shields to Newcastle, engine No. 1033. 5 minutes at South Shields by a leak, the hosepipe washer on the engine being defective.	
		„ 2	9.10 p.m. train, Newcastle to West Hartlepool, engine 1156. 15 minutes at South Hetton, the half-inch connecting pipe from main pipe to triple valve on tender broken. Faulty material.	
		„ 6	3.35 p.m. train, York to Scarboro' engine No. 329. 28 minutes at York, the air pipe from the main pipe to donkey pump governor broken at union with governor. Faulty brazing.	
		„ 6	2.15 p.m. train, York to Saltburn, engine No. 927. 3 minutes at Eaglescliffe. Unable to release the brake on train, owing to engine No. 1270 which worked the train to Eaglescliffe leaving too high a pressure in the train through the adjusting spring in donkey pump governor being weak.	

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North-Eastern—*cont.*	The Westinghouse Automatic Brake —*cont.*	Jan. 9	9.30 a.m. train, Newcastle to York, engine No. 852. 3 minutes at Gateshead, the brake being on upon Midland van No. 1180. Unable to examine vehicle.	
		,, 9	5.40 p.m. train, York to Hull, engine No. 1847. 2 minutes between Crabley and Brough, the brake being on upon composite carriage No. 255 by a leak at the air pipe from donkey pump to main reservoir on engine.	
		,, 12	9.45 p.m. train, Darlington to Saltburn, engine No. 901. 3 minutes at Eston Grange, the half-inch cock on the engine broken.	
		,, 17	4.30 p.m. train, Newcastle to Berwick, engine No. 848. 4 minutes lost, the nut on the donkey pump steam pipe broken. Faulty material.	
		,, 19	5.20 p.m. train, Driffield to Hull, engine No. 223. 2 minutes lost owing to the donkey pump stopping, the nut on the upper main piston valve having slacked back. Faulty valve spindle.	
		,, 19	8.35 a.m. train, Harrogate to Leeds, engine No. 377. 32 minutes in Bramhope Tunnel, the brake being on upon the train caused by leakage on the engine in the air pipe between main reservoir and donkey pump.	
		,, 21	2.5 p.m. train, York to Edinburgh, engine No. 1526. 12 minutes lost between Newcastle and Newham, the air pipe from the driver's valve to the auxiliary reservoir broken. Faulty material.	
		Feb. 1	9.5 p.m. train, Leeds to Hull, engine No. 468. 4 minutes between Wressle and Howden, the brake being on upon the train caused by a leak at the joint of the air pipe with the air valve case, the copper washer not being sufficiently pliable. Neglect of servant.	
		,, 2	10.10 a.m. train, Carlisle to Newcastle, engine No. 677. 4 minutes near Carlisle, the brake being on upon composite carriage No. 1007. Secondary valve in triple valve required easing. Faulty valve.	
		,, 4	4.50 p.m. train, Leeds to Bridlington, engine No. 223. 7 minutes between Bainton and Southburn, the brake being on upon the train owing to a leak in the air pipe between the main reservoir and donkey pump. Neglect of servant.	
		,, 11	2.30 p.m. train, Newcastle to Hexham, engine No. 948. 6 minutes at Hexham, the brake being on upon train. Inexperience of driver.	
		,, 11	5.15 a.m. train, York to Scarboro', engine No. 1137. 2 minutes at Bootham Junction, the brake being on upon composite carriage No. 2350. Fault of driver.	
		,, 15	9.15 a.m. train, Berwick to Newcastle, engine No. 640. 8 minutes between Smeafield and Belford, the air pipe from main pipe to governor broken. Faulty material.	
		,, 16	2.0 p.m. train, Carlisle to Newcastle, engine No. 1099. 3 minutes at Scotby, the hose couplings between N.E. carriage truck No. 30 and Caledonian fish waggon No. 1 becoming disconnected. Fault of porter not coupling the pipes properly.	

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North-Eastern—*cont.*	The Westinghouse Automatic Brake —*cont.*	Mar. 11	7.20 p.m. train, Berwick to Kelso, engine No. 273. 8 minutes between Tweedworth and Velvet Hall, the brake being on upon composite carriage No. 1042. Fault of driver.	
		,, 13	2.40 p.m. train, York to Newcastle, engine No. 1479. 5 minutes at Darlington, the hose pipe on L. & N.W. waggon No. 53083 burst.	
		,, 15	6.42 p.m. train, Driffield to Malton, engine No. 158. Lost 4 minutes by donkey pump stopping, the lower main piston head broken. Faulty material.	
		,, 17	10.50 p.m. train, Newcastle to South Shields, engine No. 324. 5 minutes at Newcastle, the brake on the train not releasing. Fault of driver.	
		,, 18	6.25 p.m. train, York to Newcastle, engine No. 1469. 3 minutes at Thirsk, the brake being on upon Midland luggage composite carriage No. 387. The exhaust portway of the triple valve being partially blocked with dirt.	
		Apr. 4	2.30 p.m. train, Edinbro' to York, engine No. 847. 3 minutes between Thirsk and York by the donkey pump stopping. Want of lubrication owing to some grit blocking the oil passage in the lubricator.	
		,, 4	12.0 noon train, Church Fenton to Leeds, engine No. 1447. Lost 12 minutes by donkey pump stopping. The steam passage between the main piston valve chamber and reversing valve chamber being blocked with dirt.	
		,, 5	7.0 p.m. train, Scarboro' to York, engine No. 1935. 2 minutes at Falsgrave, the brake being on upon third-class carriage No. 1214. Fault of driver not having sufficient pressure.	
		,, 7	1.35 p.m. train, Leeds to Scarboro', engine No. 1540. 10 minutes at Crambeck. The hose-pipe on Midland horse-box No. 355 burst.	
		,, 8	6.15 p.m. train, Carlisle to Newcastle, engine No. 472. 16 minutes at Gilsland, the main pipe on carriage-truck No. 51 broken at the half-inch connection. Faulty material.	
		,, 8	7.25 p.m. train, York to Normanton, engine No. 693. 3 minutes lost owing to donkey pump stopping, one of the reversing piston rings broken. Faulty materials.	
		,, 10	6.25 p.m. train, York to Newcastle, engine No. 115. 9 minutes near Croxdale, the hose-pipe on Midland composite-carriage No. 56 burst.	
		,, 26	6.0 p.m. train, Harrogate to Leeds, engine No. 112. Lost 3 minutes. Donkey pump stopped, the steam passage between the main piston valve chamber and the reversing valve chamber being blocked with dirt.	
		,, 28	6.5 p.m. train, Coldstream to Alnwick, engine No. 1942. Lost 7 minutes between Edlingham and Alnwick. The air-pipe from governor to driver's valve broken. Faulty material.	
		May 6	5.50 p.m. train, Hull to Leeds, engine No. 678. 3 minutes at Thorpegates. The hose-pipe on Midland composite-carriage No. 57 burst.	

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North-Eastern—*cont.*	The Westinghouse Automatic Brake —*cont.*	May 6	5.0 p.m. train, York to Newcastle, engine No. 53. 5 minutes near Bradbury. The governor pipe broken at the nipple. Faulty material.	
		„ 8	7.5 a.m. train, Newcastle to York, engine No. 1476. 2 minutes at Gateshead by leakage at the triple valve joint on third-class carriage No. 1568.	
		„ 9	5.40 p.m. train, Hull to Withernsea, engine No. 328. 5 minutes lost. The hose-pipe between engine and tender being pulled off the nipple in applying the brake. The pipe had been faultily mounted.	
		„ 19	3.35 a.m. train, York to Newcastle, engine No. 1472. Lost 9 minutes by leakage at one of the joints in the main pipe on L. & N.W. van No. 43.	
		„ 24	7.0 a.m. train, Newcastle to Stockton, engine No. 671. 2 minutes late start by a leak at the hose coupling washer on van No. 30. Defective material.	
		„ 27	8.15 p.m. train, Durham to Newcastle, engine No. 455. Lost 4 minutes by donkey pump not working properly.	
		„ 31	6.20 a.m. train, Carlisle to Newcastle, engine No. 1495. 3 minutes at Scotby. Brake being on upon composite-carriage No. 2242. Fault of driver.	
		June 2	7.50 p.m. train, York to Scarboro', engine No. 1539. 5 minutes at Flaxton. The half-inch cock on horse-box No. 16 broken. Defective material.	
		„ 3	8.15 a.m. train, Newcastle to Carlisle, engine No. 1444. 3 minutes at Wetheral. The half-inch cock connecting main pipe to triple valve on tender broken.	
		„ 4	9.50 a.m. train, Leeds to Harrogate, engine No. 112. 10 minutes at Wortley Junction changing engines owing to the donkey pump steam pipe nipple on engine No. 112 breaking. Faulty material.	
		„ 8	8.15 p.m. train, Alnmouth to Newcastle, engine No. 425. 4 minutes at Plessey. Hose-pipe on third-class carriage No. 702 burst. Defective hose-pipe.	
		„ 9	4.25 p.m. train, Newcastle to Sunderland, engine No. 344. 2 minutes at Newcastle. Hose-pipe on engine burst. Defective hose-pipe.	
		„ 17	1.55 p.m. train, West Hartlepool to Leeds, engine No. 19. 4 minutes between Harrogate and Pannal, by a leak at the union of the air-pipe with the air valve case owing to the nut having slacked back.	
		„ 24	3.35 p.m. train, Stockton to Ferryhill, engine No. 57. 3 minutes at Stockton Bank. The hose-pipe on third-class No. 593 burst.	
		No failures reported.	—	Vacuum Automatic Brake. 8,956 miles.

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North London	Automatic Vacuum Brake. (79 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	915,630 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 2	Two minutes delay at Wood Green, through flexible coupling of second-class carriages Nos. 18 and 25 leaking. Failure of material owing to extreme frost.	
		May 13	Eight minutes delay at Queen's Park, through vacuum pistons of engine No. 52 temporarily sticking. Failure of material.	
		,, 22	Three minutes delay at Broad Street, through brake blocks of engine No. 59 hanging on. Could not arrive at a definite cause.	
		June 5	Four minutes delay at Chalk Farm, through ball valve of brake van No. 1010 sticking. Failure of material.	
		,, 15	Six minutes delay at Chalk Farm, through brake blocks of brake vans Nos. 81 and 85 hanging on. Could not arrive at a definite cause.	
North Staffordshire	- - -	No failures reported.	—	Automatic Vacuum 631,591 miles.
North Wales (Narrow Gauge).	- - -	No failures reported.	—	Westinghouse.
Pembroke and Tenby	- - -	No failures reported.	—	Automatic Vacuum 4,333 miles.
Pontypridd, Caerphilly, and Newport.	- - -	No failures reported.	—	Vacuum Automatic Brake. 6,210 miles.
Rhondda and Swansea Bay.	- - -	No failures reported.	—	Automatic Vacuum 28,698¼ miles.
Rhymney	- - -	No failures reported.	—	Westinghouse Automatic Brake. 93,850 miles.
Severn and Wye and Severn Bridge.	- - -	No failures reported.	—	Vacuum Automatic Brake. 31,105 miles.
Somerset Joint Committee.	- - -	No failures reported.	—	Vacuum Automatic Brake. 292,160 miles.
South-Eastern	- - -	No failures reported.	—	Simple Vacuum Brake. 2,932,206 miles.
	Automatic Vacuum Brake. (325 engines fitted. *See* Return No. 1.)		1. Nil.	(Included above.)
			2. *Failure or partial failure to act under ordinary circumstances to stop a train when required.*	
		May 23	The 10.10 a.m. Blackheath to Charing Cross train overran Lewisham platform three carriage lengths in consequence of the brake not acting properly. This was caused by some cotton waste being in the brake pipe of luggage van No. 166.	

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South-Eastern—*cont.*	Automatic Vacuum Brake —*cont.*		3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 1	The 2.45 p.m. up Dover mail was delayed seven minutes at Waterloo in consequence of the driver being unable to release the brake on the tender of engine No. 231. It was found that ice had formed in the air passage between the cylinder and train pipe of the tender brake.	
		,, 1	The 9.35 p.m. down Reading train was delayed nine minutes at Betchworth in consequence of a mass of ice having formed on the links, connecting the engine brake piston to the brake shaft lever of engine No. 54.	
		,, 2	The 10.0 p.m. up Maidstone train was delayed twenty minutes at Maidstone owing to the driver being unable to release the brake on engine No. 231. This was caused by ice having formed in the passage between the cylinder and the train pipe of engine brake.	
		,, 2	The 5.35 a.m. down Dover train was delayed two minutes at Cannon Street owing to the brake on the engine No. 199 not coming off properly. It was found that the ball valve was frozen, and on heat being applied to it the brake worked properly.	
		,, 2	The 10.42 a.m. Tonbridge to Charing Cross train was delayed seven minutes at Hildenborough, the driver being unable to release the brake on engine No. 227 owing to ice having formed in the air passage between the cylinder and train pipe.	
		,, 3	The 4.25 p.m. up Dover train was delayed five minutes at Cannon Street owing to the brake coupling not starting itself properly on the dummy of third-class carriage No. 6. This was owing to some snow having accumulated on the dummy.	
		,, 4	The 6.55 p.m. down Mid-Kent train was delayed five minutes at Charing Cross owing to the driver being unable to keep the brake off. This was due to ice forming in the air passage between the cylinder and train pipe of engine No. 247.	
		,, 5	The 6.30 p.m. Continental express empties, Charing Cross to Rotherhithe Road, were delayed 10 minutes at North Kent West Junction owing to the driver being unable to release the brake on tender No. 92. It was found that this was caused by ice accumulating in the ball-valve chamber.	
		,, 6	The 5 p.m. Blackheath to Charing Cross was delayed two minutes at Cannon Street owing to the brake pipes between brake van No. 94 and third-class carriage No. 2117 having become rigid owing to severe weather, and causing a leakage.	

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South-Eastern—*cont.*	Automatic Vacuum Brake —*cont.*	Jan. 6	The 5.40 p.m. Charing Cross to Plumstead train was delayed two minutes at Cannon Street owing to the brake pipes between brake van No. 94 and third-class carriage No. 2117 having become rigid owing to severe weather and causing a leakage.	
		,, 6	The 11.40 a.m. Dover to Ashford train was delayed seven minutes at Smeeth in consequence of ice having formed in the air passage between the cylinder and train pipe of the tender of engine No. 93, and preventing the brake being released.	
		,, 7	The 7 a.m. empty train, Rotherhithe Road to Charing Cross, was delayed 15 minutes at Rotherhithe Road owing the tender brake of engine No. 18 not working properly. It was found that this was caused by ice forming in the air passage between the cylinder and train pipes.	
		,, 7	The 12.50 p.m. down Blackheath train was delayed two minutes at Cannon Street owing to the driver being unable to release the brake on the tender of engine No. 264. This was due to ice forming in the air passage between the brake cylinder and train pipe of tender.	
		,, 17	The 2.52 p.m. Charing Cross to Ashford train was delayed one minute at Chislehurst owing to the automatic brake pipe on N.E.R. horse-box No. 118 not having been placed properly on the dummy and causing a leakage.	
		,, 30	The 5.0 p.m. down Tonbridge train was delayed five minutes at Cannon Street owing to an iron brake pipe underneath luggage van No. 105 being broken.	
		Feb. 16	The 11.0 a.m. down Brussels express lost five minutes on the journey after passing Tonbridge in consequence of the brake being slightly on. This was caused by a defect in the piston-rod packing ring of the engine (No. 203) brake.	
		,, 18	The 8 a.m. Beckenham Junction to New Beckenham train was delayed two minutes at Beckenham Junction owing to the simple vacuum brake pipe in front of engine No. 24 failing, and causing the brake to go on.	
		,, 20	The 6 a.m. Charing Cross to Dartford train was delayed five minutes at Cannon Street disconnecting the brake pipes between engine No. 352 and third-class carriage No. 1358. The shunter being unable to separate the couplings in the ordinary manner used a hammer and damaged one of them.	
		,, 22	The 9.48 a.m. Charlton to Charing Cross train was delayed two minutes at Charlton owing to the brake pipe in front of engine No. 306 having failed.	
		Mar. 11	The 6.47 p.m. Cannon Street to Gravesend train was delayed four minutes at Dartford, examining brake on third-class carriage No. 2040, owing to two bolts having gone adrift the gearing became twisted, and caused the brake piston to stick.	

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South-Eastern—*cont.* -	Automatic Vacuum Brake —*cont.*	Mar. 27	The 9.35 a.m. Tonbridge to Hastings train was delayed seven minutes at Battle owing to the driver being unable to release the brake on composite carriage No. 1898. The brake on the train was afterwards tested and found to work satisfactorily.	
		„ 28	The 5.20 p.m up Dover train was delayed one minute at Cannon Street owing to engine No. 25 being unable to release the brake quickly. It was found that the exhaust pipe through the boiler of engine had got partly furred up and prevented the formation of a proper vacuum quickly.	
		„ 30	The 5.11 p.m. Cannon Street to Ashford train was delayed eight minutes at Orpington, owing to the driver of engine No. 25 being unable to obtain a proper vacuum. It was found that the exhaust pipe through the boiler had become partly furred up.	
		April 1	The 10.37 a.m. Charing Cross to Tonbridge train was delayed 7 minutes at Selsdon Road. The driver was unable to obtain a proper vacuum owing to the exhaust pipe through the boiler of engine No. 25 having become partly furred up.	
		„ 2	The 5.45 p.m. Hastings to Ashford train was delayed one minute at Appledore owing to the brake-pipe having come off the dummy of L.B. and S.C. Railway carriage truck No. 95. It was found that the dummy had been placed in a proper position and had allowed the coupling to slip off when the brake was applied.	
		„ 5	The 8.48 a.m. Tonbridge to Charing Cross train was delayed two minutes at Red Hill, two minutes at Merstham, two minutes at Coulsdon in consequence of the exhaust pipe through the boiler of engine No. 25 being partly furred up, and preventing a proper vacuum being obtained.	
		„ 5	The 4.22 p.m. Reading to Charing Cross train was delayed two minutes at Earley owing to a leakage in the brake. It was found that there was a small hole in the brake hose of G.W.R. horse-box No. 96.	
		„ 11	The 10.53 p.m. up Mid Kent train was delayed four minutes at New Beckenham owing to the washers becoming detached from the brake coupling of third-class brake No. 1556, and causing a leakage.	
		„ 11	The 3.20 p.m. up Reading train was delayed three minutes at Shalford. This was due to the brass plug containing the drip valve of engine No. 30 dropping from its place.	
		„ 16	The 8.0 a.m. Tonbridge to Gondhurst train was delayed three minutes at Paddock Wood owing to the ball of screw coupling of engine No. 112 striking the brake pipe coupling and breaking the two under lugs off.	
		May 6	The 7.15 a.m. Reading to Charing Cross train was delayed two minutes at Cannon Street. This was caused by the safety chain hook of carriage truck No. 137 dropping into the coupling and becoming fixed in the cross wires of the pipe.	

1. Name of Railway Company.	2. Name or Description of brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
South-Eastern—*cont.*	Automatic Vacuum Brake —*cont.*	May 18	The 7.25 a.m. Dover to Charing Cross train was delayed six minutes at Shorncliffe owing to the shunter being unable to separate the brake pipes between engine No. 214 and horse-box No. 159. The couplings on the engine and the horse-box were afterwards examined and found to be correct to gauge.	
		„ 30	The 2.52 p.m. down Ashford train was stopped outside Ashford, and delayed three minutes owing to the brake pipes having become partially disconnected between G.W. Railway horse-box No. 57 and International car No. 256. Owing to the stand-pipes on the horse-box being higher than the S.E. Railway standard, there was not sufficient slack in the couplings for curving.	
		June 19	The 9.55 p.m. up Woolwich train lost five minutes in running owing to a leakage in the brake. This was caused by the india-rubber washer in the brake coupling of engine No. 228 having been lost.	
		„ 24	The 8.5 a.m. down Dover train was delayed one minute at Waterloo. This was caused by the ball of screw coupling on engine No. 139 coming into contact with the brake pipes and breaking the lugs of the brake coupling of third class carriage No. 2055.	
Taff Vale - -	Automatic Vacuum Brake. (42 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	215,727 miles.
			3. *Delay in the working of trains in consequence of defects in, or improper action of the brakes.*	
		Jan. 20	Brake failed near Troedyrhiw Station owing to nut of injector working off against disc, causing a delay of 11 minutes. This arose through the neglect of the Company's servants.	
West Lancashire -	- - -	No failures reported.	—	Westinghouse Automatic Brake. 93,095 miles.
Wirral - - - ..	- - -	No failures reported.	—	Automatic Vacuum Brake. 81,908 miles.
Wrexham, Mold, and Connah's Quay.	- - -	No failures reported.	—	Automatic Vacuum Brake. 20,832 miles.

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SCOTLAND.				
Caledonian	Westinghouse Automatic Brake. (344 engines fitted. *See* Return No. 1.)		1 & 2. Nil.	3,443,534 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 16	10.0 a.m. train, Stranraer to Dumfries, delayed 3 minutes between Glenluce and Kirkcowan. Cause: hose-pipe bursting on Caledonian brake-van No. 161.	
		Mar. 3	4.35 p.m. train, Perth to Carlisle, delayed 2 minutes between Whitemoss and Auchterarder. Cause: hose-pipe bursting on Highland Railway game-truck No. 289.	
		,, 13	10.40 a.m. train, Crieff to Crieff Junction. delayed 4 minutes at Tullibardine. Cause: hose-pipe bursting on Caledonian horse-box No. 19.	
		April 13	9.45 p.m. train, Glasgow to Carlisle, delayed 11 minutes at Dinwoodie. Cause: hose-pipe bursting on Caledonian fish-van No. 1569.	
		,, 24	7.34 a.m. train, Montrose to Dundee, delayed 4 minutes between Arbroath and Elliot Junction. Cause: hose-pipe bursting on Caledonian third-class carriage No. 664.	
		May 5	1.12 p.m. train, Carlisle to Glasgow, delayed 3 minutes at Kingsmoor. Cause: hose-pipe bursting on London and North-Western brake-van No. 9.	
		,, 19	5.15 p.m. train, Dunblane to Oban, delayed 6 minutes at Luib. Cause: failure of hose-pipe on Caledonian horse-box No. 15.	
		,, 24	7.20 p.m. train, Dumfries to Stranraer, delayed 6 minutes between Dalbeattie and Castle Douglas. Cause: hose-pipe bursting on Midland horse-box No. 6.	
		,, 26	12.20 p.m. train, Perth to Carlisle, delayed 4 minutes at Stirling. Cause: failure of india-rubber washer on hose-pipe of Caledonian saloon carriage No. 13.	
		,, 31	6.5 a.m. train, Aberdeen to Perth, delayed 5 minutes at Bridge of Dun. Cause: hose-pipe bursting on Caledonian fish-truck No. 72.	
		June 20	4.30 p.m. train, Carlisle to Glasgow, delayed 3 minutes between Lockerbie and Dinwoodie. Cause: copper-pipe on Caledonian engine No. 79 breaking.	
		,, 24	8.20 p.m. train, Gourock to Kilbirnie, delayed 2 minutes at Greenock. Cause: failure of spring of triple valve on Caledonian composite carriage No. 1422.	
		,, 28	9.45 a.m. train, Ardrossan to Glasgow, delayed 8 minutes at Giffen. Cause: hose-pipe bursting on Lancashire and Yorkshire carriage truck No. 43.	
		,, 29	10.45 a.m. train, Dundee East to Monikie, delayed 20 minutes between Dundee East and West Ferry. Cause: hose-pipe bursting on Caledonian composite carriage No. 1,415.	
	—	No failures reported.	—	Vacuum Brake. 1,843 miles.

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Glasgow and South-Western.	Westinghouse Automatic Brake. (98 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	640,154 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 14	11.30 a.m. Glasgow to Ayr, 2 minutes between St. Enoch and Shields Road by brake binding on P.B. van No. 82.	
		Mar. 24	7.20 p.m. Dumfries to Stranraer, 2 minutes at Castle Douglas by brake binding on compo. No. 30.	
		Apr. 1	9.40 a.m. Ardrossan to Largs, 5 minutes on journey by brake binding on train. Cause unknown.	
		„ 4	9.35 a.m. Ardrossan to St. Enoch, 9 minutes at Shields Road by brake binding on No. 42 first and No. 458 third-class.	
		„ 19	7.20 p.m. Dumfries to Stranraer, 2 minutes at Dromore by pipe between engine and tender bursting.	
		May 9	11.30 a.m. Glasgow to Girvan, 6 minutes on the journey by hose between engine and tender slipping twice off nipple.	
		„ 16	11.30 a.m. Glasgow to Girvan, 3 minutes at Kilwinning owing to pipe bursting on No. 264 third.	
		„ 19	3.30 p.m. ex. Whithorn, 2 minutes between Wigtown and Newton Stewart by pipe bursting on No. 99 P.B. van.	
		„ 26	8.30 p.m. Stranraer to Glasgow, 6 minutes at New Luce by intermediate hose-pipe of injector bursting.	
		„ 30	5.5 p.m. Glasgow to Greenock, 4 minutes at Swinlies by hose coupling on No. 25 first-class bursting.	
		June 5	10.31 a.m. Kilmarnock to Glasgow, 9 minutes on journey by thimble on main pipe not being properly on.	
		„ 10	6.15 p.m. Special ex. Troon, 5 minutes late start by brake binding on third-class No. 71.	
		„ 14	10.0 p.m. Glasgow to Ayr, 5 minutes at Penilee by hose-pipe bursting on third-class No. 297.	
		„ 14	2.30 p.m. Ayr to Muirkirk, 3 minutes at Annbank by hose-pipe bursting on third-class No. 295.	
		„ 19	4.10 p.m. Ayr to Glasgow, 2 minutes at Johnstone by brake binding on N.B. compo. No. 267.	
		„ 21	10.15 a.m. Greenock to Glasgow, 10 minutes between Lower and Upper Port Glasgow by hose-pipe bursting on Midland Sleeping Car No. 27.	
	Vacuum Automatic Brake. (88 engines fitted. *See* Return No. 1.)		1 and 2 Nil.	1,046,029 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 5	3.0 p.m. Glasgow to Carlisle, 2 minutes on journey by brakes binding on train. (Snowstorm.)	
		„ 9	6.45 a.m. Glasgow to Carlisle, 2 minutes at Shields Road by small hole in front hose of engine No. 186.	
		„ 14	8.10 p.m. Glasgow to Carlisle, 2 minutes on the journey by brakes binding on Nos. 53 and 74 fish trucks and No. 7 carriage truck.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Glasgow and South-Western—*cont.*	Vacuum Automatic Brake—*cont.*	Feb. 20	6.30 p.m. Glasgow to Kilmarnock, 8 minutes at Kilbirnie by brake binding. Rolling ring getting over head of piston.	
		Mar. 6	8.50 p.m. Stranraer to Carlisle, 16 minutes late start by brake not working, owing to small rubber washer of drip being broken.	
		,, 20	8.10 p.m. Largs to Ardrossan, 4 minutes on journey by brake binding on third-class carriage No. 351. (Brake taken up too tight.)	
		Apr. 20	5.25 p.m. Kilmarnock to Ardrossan, 6 minutes on journey. Tallow cock on top of ejector blew out, owing to thread of screw being worn.	
		,, 28	1.30 p.m. Largs to Glasgow, 5 minutes at Dalry by brake binding on bogie first No. 157. (Brake taken up too tight.)	
		May 9	5.40 p.m. Carlisle to Dumfries, 9 minutes at Gretna Green by brake binding on B. van No. 108. (Brake taken up too tight.)	
		,, 22	3.50 p.m. St. Enoch to Barrhead, 8 minutes on journey by brake binding on train. Cause unknown.	
		,, 24	2.15 p.m. St. Enoch to Ardrossan, 12 minutes on journey by brake not acting on train. Caused by a piece of waste getting into hose at back of tender engine 11.	
		June 28	10.0 a.m. St. Enoch to Carlisle, 3 minutes at Gorbals by brake binding on an M.R. bogie brake third.	
Great North of Scotland	Westinghouse Automatic Brake. (70 engines fitted. *See* Return No. 1.)		1 and 2. Nil.	408,341¾ miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 12	7.50 a.m. down Teeside train stopped between Cambus-o'-May and Ballater owing to hose-pipe between engine No. 43 and tender bursting. 3 minutes detention to train.	
		Feb. 9	5.0 p.m. down main line train stopped between Rothiemay and Huntly owing to hose-pipe on fish truck No. 2,020 bursting. 2 minutes detention to train.	
		,, 27	7.40 p.m. up main line train stopped when approaching Bursburn station owing to hose-pipe on third-class carriage No. 138 bursting. 2 minutes detention to train.	
		Mar. 11	7.10 a.m. up train ex. Elgin stopped between Elgin and Longmoor owing to hose-pipe on third-class carriage No. 141 bursting. 3 minutes detention to train.	
		Apr. 24	12.20 p.m. down Deeside train stopped between Aboyne and Dinnet owing to hose pipe on P.B. van No. 33 bursting. 3 minutes detention to train.	
		,, 27	9.30 a.m. down Deeside train stopped 200 yards west of Glassel owing to hose-pipe on third-class carriage No. 93 bursting. 2 minutes detention to train.	
		May 25	1.0 p.m. up Buchan train detained 3 minutes at Ellon Station owing to hose-pipe on fish truck No. 2,014 bursting.	
		June 12	5.0 p.m. up main line train stopped between Rothiemay and Huntly owing to main pipe of engine No. 73 breaking at driver's brake valve. 3 minutes detention to train.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Highland - -	Automatic Vacuum Brake. (86 engines fitted. *See* Return No. 1).		1 and 2. Nil.	483,044 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 16	Two holding up studs of one of the cylinder brackets of No. 40 engine gave way when approaching Blair Athole Station with 10.30 p.m. up train, but caused no detention.	
		Feb. 22	10.10 a.m. up train was detained 8 minutes a quarter of a mile south of Blair Athole Station, disconnecting brake on H.R. composite carriage No. 11, owing to rolling ring inside brake cylinder giving way and jamming the piston, thus preventing piston from falling to allow brake to come off.	
		Mar. 25	11.20 a.m. up train was detained at Invergordon 3 minutes in consequence of disc-valve inside ejectors of No. 70 engine seizing and breaking its spindle.	
	Newall's Continuous Hand Brake.	No failures reported.	—	62,750 miles.
North British - -	Vacuum Automatic Brake.	No failures reported.	—	
	Westinghouse Automatic Air Brake. (265 engines fitted. *See* Return No. 1.).		1 and 2. Nil.	3,755,859 miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 4	Passenger train, Carlisle to Edinburgh, detained 45 minutes at Hawick by pump failing on engine No. 477. Failure of machinery.	
		,, 6	Passenger train, Edinburgh to Thornton, detained 4 minutes at Haymarket Tunnel by hose-pipe bursting between tender and engine No. 390. Failure of material.	
		,, 9	Passenger train, Edinburgh to Glasgow, detained 5 minutes near Gartshore by air pipe breaking on engine No. 211. Failure of material.	
		,, 11	Passenger train, Bridgeton Cross to Milngavie, detained 20 minutes at Gallowgate Central by brake piston failing on engine No. 587. Failure of machinery.	
		,, 12	Passenger train, Edinburgh to Hawick, detained 3 minutes at Dalhousie by hose-pipe bursting on third-class carriage No. 253. Failure of material.	
		,, 26	Passenger train, Edinburgh to Aberdeen, detained 10 minutes at Edinburgh by hose-pipe bursting on Midland Railway passenger van No. 177. Failure of material.	
		,, 27	Passenger train, Galashiels to Edinburgh, detained 7 minutes at Galashiels by governor pipe failing on engine No. 424. Failure of material.	
		,, 27	Passenger train, Polmont to Grangemouth, detained 12 minutes at Polmont by pump failing on engine No. 352. Failure of machinery.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
North British—*cont.*	Westinghouse Automatic Air Brake—*cont.*	Jan. 27	Passenger train, Bridgeton Cross to Balloch, detained 4 minutes on journey by brake piston failing on engine No. 327 at Charing Cross. Failure of machinery.	
		,, 31	Passenger train, Caldercruix to Hyndland, detained 5 minutes on journey by pump failing on engine No. 590. Failure of machinery.	
		Feb. 2	Passenger train, Hyndland to Hamilton, detained 4 minutes at Finnieston, releasing brake. Mismanagement.	
		,, 5	Passenger train, Dundee to Tayport, detained 6 minutes on journey by pump failing on engine No. 103. Failure of machinery.	
		,, 11	Passenger train, Hamilton to Hyndland, detained 5 minutes at Parkhead by pump failing on engine No. 314. Failure of machinery.	
		,, 15	Passenger train, Kelso to St. Boswell's, detained 4 minutes at Kelso by hose-pipe bursting on Midland Railway carriage truck No. 214. Failure of material.	
		,, 20	Passenger train, Edinburgh to Perth, detained 5 minutes at Dalmeny by brake failing to come off North Eastern carriage No. 160. Cause not ascertained.	
		,, 23	Passenger train, Perth to Edinburgh, detained 5 minutes near Turnhouse by hose-pipe bursting on engine No. 574. Failure of material.	
		,, 25	Passenger train, Hyndland to Edinburgh, detained 6 minutes between Bathgate and Livingston by branch pipe to triple valve breaking on engine No. 333. Failure of material.	
		,, 26	Passenger train, Galashiels to Edinburgh, detained 4 minutes between Eddleston and Leadburn by air pipe between cylinder and main pipe failing on engine No. 329. Failure of material.	
		,, 27	Passenger train, Glasgow to Edinburgh, detained 5 minutes between Queensferry Junction and Gogar by air pipe failing between tender and engine No. 575. Failure of material.	
		,, 27	Passenger train, Thornton to Dunfermline, detained 15 minutes at Thornton by brake failing to come off train. Cause not ascertained.	
		,, 28	Passenger train, Edinburgh to Glasgow, detained 3 minutes at Polmont by main air pipe between pump and reservoir failing on engine No. 349. Failure of material.	
		Mar. 1	Passenger train, Carlisle to Edinburgh, detained 3 minutes between Galashiels and Bowland by hose-pipe bursting on Midland Railway Pullman car No. 11. Failure of material.	
		,, 3	Passenger train, Glasgow to Dundee, detained 8 minutes at Winchburgh by air pipe connecting tender brake failing on engine No. 427. Failure of material.	
		,, 6	Passenger train, Perth to Glasgow, detained 6 minutes in Glenfarg tunnel by hose-pipe bursting on horse-box No. 151. Failure of material.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
North British—*cont.*	Westinghouse Automatic Air Brake—*cont.*	Mar. 9	Passenger train, Glasgow to Balfron detained 5 minutes at Cowlairs by hose-pipe bursting on first-class carriage No. 4. Failure of material.	
		,, 10	Passenger train, Glasgow to Edinburgh, detained 3 minutes at Glasgow by hose-pipe bursting on horse-box No. 114. Failure of material.	
		,, 14	Passenger train, Edinburgh to Glasgow, detained 6 minutes on journey by pump failing on engine No. 576. Failure of machinery.	
		,, 21	Passenger train, Edinburgh to Perth, detained 4 minutes near Blairadam by hose-pipe bursting on Midland Scotch Joint Stock composite carriage No. 51. Failure of material.	
		,, 22	Passenger train, Edinburgh to Carlisle, detained 2 minutes near Penton by hose-pipe bursting on Midland Scotch Joint Stock composite carriage No. 903. Failure of material.	
		,, 29	Passenger train, Hyndland to Edinburgh, detained 5 minutes at Parkhead by pump failing on engine No. 164. Failure of machinery.	
		,, 30	Passenger train, Edinburgh to Perth, detained 3 minutes between Blairadam and Loch Leven by nut connecting pipe on to governor getting loose on engine No. 574. Failure of workmanship.	
		Apr. 1	Passenger train, Hyndland to Airdrie, detained 6 minutes on journey by pump failing on engine No. 588. Failure of machinery.	
		,, 1	Passenger train, Aberdeen to Edinburgh, detained 7 minutes at Inverkeithing by small pipe between triple valve and main pipe of brake failing on Midland Scotch Joint Stock composite carriage No. 13. Failure of material.	
		,, 1	Passenger train, Edinburgh to Berwick, detained 7 minutes at Dunbar by hose-pipe bursting on Great Northern saloon carriage No. 10. Failure of material.	
		,, 4	Passenger train, Aberdeen to Edinburgh, detained 4 minutes between Lunan Bay and Inverkeiller by hose pipe bursting between engine and tender No. 596. Failure of material.	
		,, 5	Passenger train, Edinburgh to Carlisle, detained 5 minutes between Belses and Hassenden by hose-pipe bursting on Midland Scotch Joint Stock third-class carriage No. 309. Failure of material.	
		,, 6	Passenger train, Hamilton to Hyndland, detained 8 minutes on journey by pump failing on engine No. 314. Failure of machinery.	
		,, 6	Passenger train, Aberdeen to Edinburgh, detained 7 minutes at Stonehaven by hose pipe bursting between tender and engine No. 478. Failure of material.	
		,, 7	Passenger train, Aberdeen to Edinburgh, detained 14 minutes on journey by pipe from pump to reservoir failing on engine No. 642. Failure of material.	
		,, 8	Passenger train, Edinburgh to Aberdeen, detained 50 minutes at St. Fort by hose-pipe bursting between tender and engine No. 478. Failure of material.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
North British—*cont.*	Westinghouse Automatic Brake—*cont.*	April 11	Passenger train, Dundee to Dunfermline, detained 6 minutes at Dundee by pump failing on engine No. 483. Failure of machinery.	
		„ 18	Passenger train, Ricarton to Carlisle, detained 12 minutes at Riddings by brake gearing getting jammed on tender of engine No. 53, owing to air piston having too much travel. Failure of workmanship.	
		„ 20	Passenger train, Edinburgh to Glasgow, detained 5 minutes at Manuell by governor pipe breaking on engine No. 474. Failure of material.	
		„ 25	Passenger train, Polmont to Larbert, detained 8 minutes at Larbert by brake failing to release on tender of engine No. 267. Cause not ascertained.	
		„ 27	Passenger train, Edinburgh to Aberdeen, detained 4 minutes between Montrose and Aberdeen by pump on engine No. 597 ceasing to work owing to want of lubrication. Mismanagement.	
		„ 28	Passenger train, Helensburgh to Bridgeton Cross detained 5 minutes at Dalreach by pump failing on engine No. 89. Failure of material.	
		„ 28	Passenger train, Aberdeen to Edinburgh, detained 4 minutes on journey by pump failing on engine No. 638. Failure of machinery.	
		May 1	Passenger train, Carlisle to Edinburgh, detained 5 minutes at Penton by hose-pipe bursting on Midland Railway saloon carriage No. 1,622. Failure of material.	
		„ 1	Passenger train, Duke Street to Kilbowie, detained 5 minutes at Partick (Glasgow) by hose-pipe bursting on third-class carriage No. 479. Failure of material.	
		„ 5	Passenger train, Carlisle to Edinburgh, detained 5 minutes between Fountainhall and Heriot by hose-pipe bursting on Midland Scotch Joint Stock composite carriage No. 16. Failure of material.	
		„ 6	Passenger train, Bridgeton Cross to Balloch detained 3 minutes at Bowling by hose-pipe bursting on third-class carriage No. 229. Failure of material.	
		„ 11	Passenger train, Hawick to Newcastle, detained 10 minutes between Hawick and Stobs by hose-pipe bursting on Midland Railway covered van No. 217. Failure of material.	
		„ 11	Passenger train, Edinburgh to Macmerry, detained 4 minutes at Edinburgh by pump failing on engine No. 230. Failure of machinery.	
		„ 13	Passenger train, Carlisle to Edinburgh, detained 5 minutes between Lyneside and Longtown by hose-pipe bursting on Midland Railway van No. 29. Failure of material.	
		„ 15	Passenger train, Hyndland to Airdrie, detained 5 minutes on journey by pump failing on engine No. 590. Failure of machinery.	
		„ 17	Passenger train, Edinburgh to Carlisle, detained 3 minutes between Piershill and Portobello by copper pipe failing on tender of engine No. 639. Failure of material.	

1. Name of Railway Company.	2. Name or Description of brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
North British—*cont.*	Westinghouse Automatic Brake—*cont.*	May 18	Passenger train, Hyndland to Hamilton, detained 3 minutes on journey by air pump failing on engine No. 88. Failure of machinery.	
		,, 19	Passenger train, Edinburgh to Carlisle, detained 5 minutes between Longtown and Lyneside by hose-pipe bursting on Midland Scotch Joint Stock carriage No. 27. Failure of material.	
		,, 19	Passenger train, Stirling to Edinburgh, detained 3 minutes near Oakley by hose-pipe bursting on engine No. 391. Failure of material.	
		,, 20	Passenger train, Gartness Junction to Glasgow, detained 4 minutes at Bishopbriggs, owing to weak spring in brake-cylinder of engine No. 228. Failure of material.	
		,, 24	Passenger train, Aberdeen to Edinburgh, detained 5 minutes on journey by pump failing on engine No. 598. Failure of machinery.	
		,, 28	Passenger train, Galashields to Edinburgh, detained 8 minutes between Abbeyhill Junction and Edinburgh by hose-pipe bursting between tender and engine No. 637. Failure of material.	
		,, 31	Passenger train, Edinburgh to Carlisle, detained 4 minutes at Hawick by hose-pipe bursting on Midland Railway third-class carriage No. 314. Failure of material.	
		,, 31	Passenger train, Edinburgh to Perth, detained 10 minutes between Touch North Junction and Townhill by hose-pipe blowing off between tender and engine No. 637. Failure of workmanship.	
		June 1	Passenger train, Edinburgh to Berwick, detained 12 minutes at Edinburgh by stop cock of union pipe failing on East Coast Joint Stock passenger van No. 53. Failure of material.	
		,, 12	Passenger train, Stirling to Edinburgh, detained 5 minutes between Brucefield siding and Bagside Station by copper pipe failing on engine No. 322. Failure of material.	
		,, 13	Passenger train, Bridgeton Cross to Balloch, detained 10 minutes at Bridgeton Cross by pump failing on engine No. 314. Failure of machinery.	
		,, 14	Passenger train, Carlisle to Edinburgh, detained 4 minutes at Lyneside and 3 minutes at Riddings by hose-pipe bursting on Midland Railway composite carriage No. 204. Failure of material.	
		,, 16	Passenger train, Edinburgh to Aberdeen, detained 6 minutes at Letham Grange by hose-pipe blowing off between tender and engine No. 598. Failure of workmanship.	
		,, 17	Passenger train, Edinburgh to Glasgow, detained 10 minutes at Philpstown by governor pipe failing on engine No. 576. Failure of material.	
		,, 17	Passenger train, Aberdeen to Edinburgh, detained 3 minutes at Aberdeen by pump failing on engine No. 36. Failure of machinery.	
		,, 17	Passenger train, Edinburgh to Aberdeen, detained 4 minutes at Ladybank by pump failing on engine No. 36. Failure of machinery.	

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
North British—*cont.*	Westinghouse Automatic Brake—*cont.*	June 29	Passenger train, Perth to Edinburgh, detained 8 minutes between Glenfarg and Mawcarse by hose-pipe bursting on Midland Scotch Joint Stock van No. 7. Failure of material.	
		„ 30	Passenger train, Glasgow to Edinburgh, detained 3 minutes at Haymarket by hose-pipe bursting on first-class carriage No. 391. Failure of material.	
		No failures reported.	—	Vacuum Automatic Brake 1,272 miles.
Portpatrick and Wigtownshire.	- - -	No failures reported.	—	Vacuum Automatic. 26,506 miles.
IRELAND.				
Belfast and County Down.	- - -	No failures reported.	—	Vacuum Automatic Brake. 229,651 miles.
Belfast and Northern Counties.	- - -	No failure nor instance of delay reported.	—	Vacuum Automatic Brake. 422,232 miles.
Castlederg and Victoria Bridge Tramway Company.	- - -	No failures nor instance of delay reported.	—	Westinghouse Automatic Brake. 10,816 miles.
Cavan, Leitrim, and Roscommon Light Railway and Tramway Company, Limited.	- - -	No failures reported.	—	Automatic Vacuum Brake. 49,374 miles.
Clogher Valley -	- - -	No failures reported.	—	Automatic Vacuum Brake. 41,190 miles.
Cork and Macroom Direct.	- - -	No failures reported.	—	Vacuum Automatic 30,700 miles.
Cork and Muskerry Light (Including Donoughmore Extension Light Railway).	- - -	No failures reported.	—	Automatic Vacuum Brake. 40,002 miles.
Cork, Bandon, and South Coast.	- - -	No failures nor instance of delay reported.	—	Automatic Vacuum Brake. 69,211 miles.
Cork, Blackrock, and Passage.	- - -	No failures reported.	—	Automatic Vacuum 19,945 miles.
Dublin, Wicklow, and Wexford.	- - -	No failures reported.	—	Automatic Vacuum Brake. 419,205 miles.

1. Name of Railway Company.	2. Name or Description of Brake which failed or caused delay.	3. Date of Failure.	4. Particulars of Circumstances relating to the Cause of Failure, &c. under the three headings given on page 30.	5. Number of Miles run by Trains fitted with Continuous Brakes.
Dundalk, Newry, and Greenore.	- - -	No failures reported.	——	Automatic Vacuum Brake. Passenger trains, 15,792¼ Mixed trains, 13.266 Total 29,058¼
Great Northern (Ireland).	- - -	No failures reported.	—-	Automatic Vacuum Brake. 1,031,815¾ miles.
Great Southern and Western Railway, Ireland.	Automatic Vacuum Brake. (107 engines fitted. *See* Return No.1.)		1 and 2 Nil.	Automatic Vacuum 1,066,336.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		Jan. 3	The 7.45 a.m. ex. Kilkenny was delayed at Kilkenny, Carlow, and Sallins, in consequence of slow formation of vacuum, caused by suction pipe from ejector being partially choked with ice.	
		June 18	The 7.30 p.m. special ex. Youghal had to work hand brake from Killeah to Cork, owing to ejector steam-pipe bursting.	
Londonderry and Lough Swilly.	- - -	No failures reported.	——	Automatic Vacuum 8,809 miles.
Midland Great Western Railway of Ireland.	Automatic Vacuum Brake. (57 engines fitted. *See* Return No.1.)		1 and 2 Nil.	663,943½ miles.
			3. *Delay in the working of trains in consequence of defects in or improper action of the brakes.*	
		March 4	9.15 a.m down train Dublin to Killala. Piston stuck fast in cylinder on tender. 35 minutes delay. Mismanagement of driver.	
Sligo, Leitrim, and Northern Counties.	- - -	No failures reported.	—-	Smith's Vacuum Brake. 15,366 miles.
Tralee and Dingle -	Automatic Vacuum Brake. (4 engines fitted. *See* Return No.1.)		1. *Failure or partial failure to act when required in case of an accident to a train, or a collision between trains being imminent.*	27,784 miles.
		May 22	An accident occurred at the end of a steep incline on a curve over Curraduff Bridge (a distance of 10 miles 58 chains from Tralee). *See* Major Marindin's report, dated 28th June 1893, with reference to same.	
			2 and 3 Nil.	
Waterford and Central Ireland.	- - -	No failures reported.	——	Automatic Vacuum 8,710 miles.
Waterford and Limerick	- - -	No failures reported.	——	Automatic Vacuum Brake. 221,023 miles.
West Carbery -	- - -	No failures reported.	——	Automatic Vacuum Brake. 9,273 miles.
West Clare - -	- - -	No failures reported.	——	Automatic Vacuum Brake. 58,595 miles.

No. 3.

RETURN for the Six Months ending on the 30th day of June 1893, of the number of miles run by Passenger Trains not fitted with CONTINUOUS BRAKES on Railways.

Name of Railway Company.	Name of Railway worked by Company on which Passenger Train ran without Continuous Brake.	Number of Miles run by Passenger Trains without Continuous Brakes.
ENGLAND AND WALES.		
Barry	Barry	37
Bishop's Castle	Bishop's Castle	11,004
Brecon and Merthyr Tydfil Junction	Nil.	—
Cambrian	Cambrian and Mid Wales Railways	Passenger trains 128,876 Mixed trains 89,806 Total 218,682
Cheshire Lines Committee	Cheshire Lines	18
Colne Valley and Halstead	Colne Valley and Halstead	—
Corris	Corris	1,840
East and West Junction	East and West Junction	230
Festiniog	Festiniog	20,760
Furness	Whitehaven, Cleator, and Egremont Cleator and Workington Junction	—
Garstang and Knot End	Garstang and Knot End	9,368
Golden Valley	Golden Valley	5,814
Great Eastern	Great Eastern, Great Northern and Great Eastern Joint, Midland and Great Eastern, Mellis and Eye.	8,315
Great Northern	Great Northern	1,493
Great Western	Main and Branch lines and lines worked by the Great Western Railway Company.	1,646
Hull, Barnsley, and West Riding Junction Railway and Dock.	Hull, Barnsley, and West Riding Junction	150
Isle of Wight	Isle of Wight Railway Brading Harbour Railway Joint South-Western and Brighton Companies' Ryde Pier Railway	—

* These are principally miles run between Hornsey, &c. and Mint Street with fish trains. The total also includes the mileage of other fish trains, also horse, carriage truck, and empty carriage trains.

Name of Railway Company.	Name of Railway worked by Company on which Passenger Train ran without Continuous Brake.	Number of Miles run by Passenger Trains without Continuous Brakes.
Isle of Wight Central - -	Isle of Wight Central and Freshwater, Yarmouth, and Newport	21,066
Lancashire and Yorkshire - -	Nil.	—
Liskeard and Caradon - -	Nil.	—
London and North-Western -	London and North-Western Railway, and lines over which that company's trains run.	—
London and South-Western -	London and South-Western Railway and Branches.	9,561¼*
London, Brighton, and South Coast	London, Brighton, and South Coast -	715
London, Chatham, and Dover -	London, Chatham, and Dover, and Dover and Deal.	182
Londonderry (Seaham and Sunderland)	Nil.	—
London, Tilbury, and Southend -	Nil.	—
Manchester and Milford - -	Manchester and Milford - - -	23,188
Manchester, Sheffield, and Lincolnshire.	Manchester, Sheffield, and Lincolnshire -	225
	Sheffield and Midland Committee - -	
	Oldham, Ashton, and Guide Bridge Committee.	
	Macclesfield Committee - - -	
Manchester, South Junction, and Altrincham.	Nil.	—
Maryport and Carlisle - -	Nil.	—
Mawddwy - - -	Mawddwy - - - -	8,437½
Mersey - - -	Nil.	—
Metropolitan - - -	Nil.	—
Metropolitan District - -	Nil.	—
Midland - - - -	Nil.	—
Midland and South-Western Junction	Midland and South-Western Junction -	—
Neath and Brecon - - -	Neath Branch only - - -	38
North-Eastern - - -	North-Eastern - - - - -	87
North London - - -	Nil.	—
North Staffordshire - - -	Nil.	—
North Wales Narrow Gauge -	North Wales Narrow Gauge - -	14,952†

* Due to the continuity of the brake being destroyed by goods vehicles put in passenger trains.

† The Westinghouse continuous automatic brake is being fitted to the Company's stock, but is not yet in general use. The mileage given is as if no trains were thus fitted.

Name of Railway Company.	Name of Railway worked by Company on which Passenger Train ran without Continuous Brake.	Number of Miles run by Passenger Trains without Continuous Brakes.
Pembroke and Tenby - -	Pembroke and Tenby - - -	37,013
Pontypridd, Caerphilly, and Newport	Nil.	—
Ravenglass and Eskdale - -	Ravenglass and Eskdale - - -	Passenger trains 6,699 Mixed trains 2,597 Total - 9,296
Rhondda and Swansea Bay - -	Nil.	—
Rhymney - - - -	Nil.	—
Severn and Wye and Severn Bridge	Nil.	—
Somerset Joint Committee - -	Somerset and Dorset Joint line - -	—
South-Eastern - - -	South-Eastern and its Branches - -	17,812
Southwold - - -	Southwold - - - -	13,938
Taff Vale - - - -	Nil.	—
Talyllyn - - - -	Talyllyn - - - - -	12,040
West Lancashire - - -	West Lancashire and Liverpool, Southport, and Preston Junction - - -	11,253
West Somerset Mineral - -	West Somerset Mineral - - -	3,744
Wirral - - - -	Nil.	—
Wrexham, Mold, and Connah's Quay	Wrexham, Mold, and Connah's Quay -	—
SCOTLAND.		
Caledonian - - -	Caledonian - - - -	822
	Callander and Oban - - -	76
	Portpatrick and Wigtownshire - -	1,757
		Total 2,655
Glasgow and South-Western -	Glasgow and South-Western, and Portpatrick and Wigtownshire Railways.	272
Great North of Scotland - -	Great North of Scotland - - -	Passenger trains - 98,603½ Mixed trains 132,184¾ Total - 230,788¼

Name of Railway Company.	Name of Railway worked by Company on which Passenger Train ran without Continuous Brake.	Number of Miles run by Passenger Trains without Continuous Brakes.
Highland - - -	Highland - - - - -	Mixed trains 217,820
North British - - -	North British - - - -	22,553
Portpatrick and Wigtownshire Joint Committee.	- - - - - -	837*
IRELAND.		
Ballycastle - - - -	Ballycastle - - - - -	18,051
Belfast and County Down - -	Belfast and County Down - - -	1,725
Belfast and Northern Counties -	Belfast and Northern Counties, Derry Central, Draperstown, Limavady and Dungiven.	8,154
Bessbrook and Newry - -	Bessbrook and Newry Tramway - -	11,034
Castlederg and Victoria Bridge -	Nil.	—
Cavan, Leitrim, and Roscommon Light Railway and Tramway.	Nil.	—
Clogher Valley Tramway - -	Nil.	—
Cork and Macroom Direct -	Cork and Macroom Direct - - -	3,500
Cork and Muskerry Light - -	Nil.	—
Cork, Bandon, and South Coast -	Cork, Bandon, and South Coast - -	12,590¾
	Ilen Valley - - - - -	4,597
	Bantry Extension - - -	3,630¾
	Clonakilty Extension - - -	6,085½
	West Cork - - - - -	5,298
	Kinsale - - - - -	3,750¾
	Baltimore Extension - - -	216
		Total - 36,168¾
Cork, Blackrock, and Passage -	Cork, Blackrock, and Passage - -	12,005
Donegal - - - - -	Donegal - - - - -	Section I. - 13,205
		„ II. - 24,774
		Total - 37,979
Dublin, Wicklow, and Wexford -	Dublin, Wicklow, and Wexford - -	38,976
Dundalk, Newry, and Greenore -	Dundalk, Newry, and Greenore - -	—
Great Northern (Ireland) - -	Nil.	—
Great Southern and Western -	Nil.	—
Londonderry and Lough Swilly -	Londonderry and Lough Swilly and Letterkenny.	36,996
Midland Great Western - -	Nil.	—
Sligo, Leitrim, and Northern Counties	Sligo, Leitrim, and Northern Counties -	Mixed trains 33,821

* Run on Garlieston Branch only at a speed restricted to 10 miles an hour while engine was being repaired and fitted with continuous brake.

Name of Railway Company.	Name of Railway worked by Company on which Passenger Train ran without Continuous Brake.	Number of Miles run by Passenger Trains without Continuous Brakes.
Tralee and Dingle - - -	Nil.	—
Waterford and Central Ireland -	Waterford and Central Ireland, Kilkenny Junction and Central Ireland.	62,110
Waterford and Limerick - -	Limerick and Kerry - - - Athenry and Ennis - - - Athenry and Tuam - - - - Southern - - - - - Rathkeale and Newcastle Junction - - Tralee and Fenit - - - -	123,578¾
Waterford and Tramore - -	Waterford and Tramore - - -	20,775
Waterford, Dungarvan, and Lismore	Waterford, Dungarvan, and Lismore - -	31,945
West Carbery - - -	Nil.	—
West Clare - - - -	Nil.	—

APPENDIX.

London Brighton and South Coast Railway.

Statement of Cases in which Accidents have been Prevented by the use of the Westinghouse Continuous Automatic Air Brake during the six months ending the 30th June 1893.

Date.	Train.	Particulars.
1893. January 12	11.45 a.m. Hastings to London Bridge.	When running between Bexhill and Pevensey, the driver observed some fox hounds on the line and he immediately applied the brake, by which he was able to stop the train before running over any of them.
March 11	1.50 p.m. Brighton to Hastings.	When between Berwick and Polegate some fox hounds ran on the line and the driver at once applied the brake, by which means he was able to stop the train so as to prevent running over any of the hounds. He states that had it not been for the continuous brake he would have been unable to stop in time.
„ 15	11.41 a.m. London to Portsmouth.	When between Horsham and Billingshurst, the driver observed some hunters and fox hounds on the line, and by means of the brake he was enabled to stop the train before running over any of them.
„ 19	11.45 a.m. Hastings to London Bridge.	When approaching Ditton crossing, between Stone Cross Junction and Polegate, the driver saw a herd of cattle being driven across the line; he immediately applied the brake bringing his train to a stand on the crossing. Had it not been for the continuous brake he would not have been able to avert what might have been a serious accident.
June 3	7.2 p.m. East Grinstead to Victoria.	On approaching Crowhurst Junction, the driver saw about 50 lambs on the line in front of his train, and by means of the brake he was enabled to come to a stand before running over any of them.
„ 30	10.15 a.m. Brighton to Portsmouth.	When running between Shoreham and Lancing there was a number of sheep on the line, and by means of the brake the driver was enabled to stop the train before reaching them.

London, Brighton, and South Coast Railway.

Statement showing the Number of Times the Westinghouse Continuous Automatic Air Brake has been used on this railway on two particular days during the six months ending 30th June 1893.

Friday, March 17th.

With passenger trains and empty carriages	15,288
With empty engines	8,643
Total	23,931
Number of booked stoppages	9,552

The weather was changeable.

Tuesday, June 13th.

With passenger trains and empty carriages	15,542
With empty engines	9,504
Total	25,046
Number of booked stoppages	9,678

The weather was fine.

2.—Rules and Regulations relating to Continuous Brakes.

CAMBRIAN RAILWAY.

Circular No. 206.

Instructions for Working the Vacuum Brake.

1. Certain of the carriages and vans at present working between Whitchurch and Aberystwith, and to a limited extent on other parts of the line also, are fitted with a Non-automatic Vacuum Brake, *under the control of the engine-driver only*. These vans are also fitted with an automatic arrangement, held off by a small vacuum to be constantly maintained in the train pipe when the engine has been coupled up. Should this vacuum not be maintained, the valve in the van will drop, the bell ring, and the van brake be instantly applied. The carriage examiners will be responsible for winding up the bell when the train is marshalled, and the guard for seeing it kept wound up on the journey.

2. The brake will eventually be fitted to all the Company's stock, but until then, some of the carriages will be fitted with train pipes only, and when it is necessary to run such carriages in Vacuum Brake trains, they must as far as possible be placed *behind carriages fitted with the brake and before the rear van.*

3. The person whose duty it is to couple up the brake pipes previous to the starting of a train, must as soon as the connexions are complete inform the driver, who will then raise the vacuum, by the use of the ejector. Porters and others are cautioned that in passing between vehicles they must not step upon the brake pipes.

4. Before giving the signal for the train to start, the guard must satisfy himself that the valve in his van has been raised by the vacuum, that the bell has ceased to ring, the small catch dropped out of gear, and that the gauge shows not less than 15 inches of vacuum. Should the gauge not show that amount of vacuum, the guard must hold up steadily the white flag to the driver, waving it when the necessary vacuum is reached. At night the same signals are to be given with a white light.

5. It will be the duty of the guard before starting, and at places where engines are changed, to inform the driver the number of vehicles on the train fitted with the Vacuum Brake complete, as well as the number fitted with the pipe only.

6. The brakes throughout the train being under the control of the driver, the use of the hand brake in the vans is not required for ordinary stops for which the use of the Vacuum Brake is permitted (*see* paragraph 14), but guards must at all times be prepared to apply the hand brake immediately on its being called for by the driver's whistle.

7. If at any time during a journey the Automatic Brake in the van goes on, and the bell rings, the guard must at once endeavour to ascertain the cause, which may arise from the train breaking in two, failure of some part of the brake apparatus, or neglect on the part of the driver to maintain the small vacuum. If the guard is satisfied that the application of the brake has not arisen from the train breaking loose, and can perceive nothing wrong with the train which would require it to be stopped, he must put the Automatic Brake out of gear by pulling up the spindle of the valve, and hooking in the catch, to prevent the brake blocks rubbing the wheels of the van to the next stopping place, where the guard must call the driver's attention to the matter.

8. The guards of all trains fitted with the Vacuum Brake must insert on their reports the words "Continuous Brake Train,' and if only for part of the journey, between what points, with full particulars of any defects which may occur in the working of the brake during the journey, including its automatic action under the circumstances described in paragraph 7.

9. To enable a van to be moved when the engine is detached from the train, the Automatic Brake can be held off by pulling up the spindle of the valve, and hooking in the catch. The valve must be so hooked up on coming to a stand at the end of a journey. The brake pipes of carriages standing in sidings must not be left hanging loose, but fixed to the plug.

10. The *Vacuum* Brake stock of the following Railway Companies may be placed with Cambrian Brake stock in making up Continuous Brake trains, subject to its being dealt with as provided in the second part of par. 12, viz.:—

London and North-Western.
North Stafford.
Great Northern.
Manchester, Sheffield, and Lincolnshire.
Manchester South Junction and Altrincham.
Cheshire Lines.
Caledonian.

The vehicles of any other company fitted with a Vacuum Brake must when possible be placed in the rear of Cambrian Continuous Brake trains, *and the pipes not coupled up*, but if it is absolutely necessary to marshal them in such trains, they are to be placed as far back as possible, the pipes left uncoupled, and the Vacuum Brake used only on the vehicles between them and the engine. If, however, such foreign vehicles are fitted with an apparatus for cutting off the brake cylinder from the train pipe, and the brake has been put out of gear, the pipes may be coupled up. Horse boxes and other vehicles *fitted with train pipes only* may be marshalled *in* the trains and the pipes coupled.

11. When any considerable number of vehicles not fitted with the Vacuum Brake, or having pipes only, are attached to a train fitted with such brake, the guard in the rear van must immediately, upon the Vacuum Brake being applied by the driver, apply his hand brake, and keep it tightly on, either until the train has come to a stand, or the driver has taken off the Vacuum Brake, and is again going forward. This action is necessary to prevent the rebound of the carriages which may occur with trains composed of vehicles only partially fitted with Continuous Brakes.

12. When a Cambrian carriage fitted with the brake is sent forward to the Great Western or Midland lines, the connexion between the train pipe and the brake cylinder must be cut off by means of the handle painted red, placed at each side of the carriage, close under the frame. This handle forms part of a rod extending across the carriage, and provided at each end with three notches. When it is desired to disconnect the brake, either for the purpose of sending the carriage to the lines mentioned, or if, when running, the brake is found defective, the handle must be pulled or pushed into one of the end notches. When right for working, the handle will stand in the centre notch, level with the side of the carriage frame, and examiners must see that the handle is placed in this position when carriages are returned from a foreign line, or after having undergone repairs.

Some of the London and North-Western Company's carriages are now fitted with the *Automatic* Vacuum Brake, and when Cambrian carriages are returned from that Company's line, special care must be taken that the handle is put back to the centre notch. For the same reason the connecting handle on London and North-Western carriages fitted with the Automatic arrangement must be moved to the position marked "Simple" before the carriages are placed in Cambrian Vacuum Brake trains.

13. Enginemen must be careful not to put on the Vacuum Brake too suddenly, and drivers of all down trains must test the brake before commencing the descent of Talerddig incline. Special instructions to enginemen will be issued by the Locomotive Superintendent.

14. The Vacuum Brake is *not to be used except on emergency* at—

(*a*) Terminal stations.
(*b*) Junctions between single and double line.
(*c*) Stations on single line where other trains are to be passed or crossed.
(*d*) *Nor at any station*, unless the driver is satisfied at the time of shutting off steam that there is an obstruction on the line which he could not stop short of by the use of the hand brakes.

Station-masters are to report any breach of this regulation which may come under their notice.

In all the foregoing cases steam must be shut off, and the speed reduced in the same manner as if the train were fitted with the ordinary hand brakes only.

Please acknowledge receipt on form annexed.

J. Conacher,
Secretary.

Oswestry, 15th June 1888.

THE FURNESS RAILWAYS.

Instructions to Engine Drivers, Guards, and Others, as to the use of the Automatic Vacuum Brake.

1. The brake can be applied throughout the train by the driver from the engine, or by the guard from his van, but in order that this may be done it is imperative that the flexible connexions between each carriage and between the engine and the train shall be properly coupled together, and the flexible pipe at the rear end be put carefully on the plug.

2. When the engine is attached to the train, it is the duty of the fireman to connect the hose coupling on the engine to that on the train; and when the engine is disconnected from the train it is the fireman's duty to place the hose coupling on to the plug provided for that purpose. The driver must see that the fireman attends to this.

3. The driver before starting must see that the gauge indicates at least 18 ins. of vacuum. This is done by admitting steam to the small ejector by means of a steam cock provided for that purpose. To apply the brake move the lever on the brake valve to "On." In ordinary running this lever must stand at "Off," or "Running position."

4. If from any cause the driver is unable to obtain at least 15 ins. of vacuum, he must inform the guard of the fact, and together they must work the train to destination with the ordinary hand brakes.

5. After the application of the automatic vacuum brake, and just before coming to a stand at stations or when stopped on the road, the driver must use his ejector so as to partially release the brake, and thus prevent any rebound of the carriages; this will also enable the driver to start his train immediately he receives the signal to do so.

6. Guards must never apply the automatic vacuum brake except in cases of absolute necessity, and whenever they do so a full report of the circumstances must be made on their reports. They must at all times be ready to apply the hand brake should the driver whistle for its assistance.

7. When guards have occasion to apply the brake they must press down the lever on the valve placed in the guard's van. This admits air throughout the train pipe, and at once stops the train by the application of the brake blocks to the tyres of the wheels. This valve opens automatically when the brake is applied with full force by the driver, and ensures very quick action.

8. To release the brake for shunting purposes, the engine having left the train, first see that the hose coupling at one end of the train is off the plug, then pull the cord which is fixed under each carriage as indicated by a red arrow, then air will be admitted to the top side of the cylinder, and the brakes come off by gravity. The release cord must always be held by hand until the brakes come off and must never be fastened.

9. The guard, before giving the signal to start at the commencement of the journey, and at stations where the flexible pipes have been coupled or uncoupled, must inform the driver—1st, That all the vehicles throughout the train fitted with the brake have the flexible pipes properly coupled up, and the flexible pipe at the rear of the last vacuum vehicle is properly placed on the dummy plug; 2nd, that 18 ins. of vacuum is indicated by the gauge in rear van on the train; and the number of vehicles fitted with the vacuum brake, and in the event of their being any vehicles on the train not fitted with the vacuum brake, the guard must inform the driver of the fact, and the number of vehicles not fitted, so that the the driver may know what number of vehicles over which he has control, and what number are without the vacuum brake.

10. When carriages are to be slipped the flexible pipes must be fixed on the dummy plugs on the end of the carriage and the cord pulled to release the brake. The carriage after being slipped must be brought to a stand with the hand brake.

11. If from any cause the automatic vacuum brake is not used, or fails to act when required, or if there is any irregularity in its working, a remark to that effect must be made by the guard on his report, and by the driver on his report, which must be accompanied by a special report giving full particulars of the irregularity. Should the amount of vacuum be less than 15 ins. on the gauge, the guard must call the driver's attention to the fact and enter the same on his report, stating cause, &c. Guards must take care during the journey that nothing in the van is allowed to rest against or in any way interfere with the lever on the brake valve that is in the guard's van.

12. Vehicles fitted with pipes only, and which have no brake gear fitted to their own wheels, have the pipes on the ends painted red, and must be considered as vehicles without the brake.

13. To work with foreign stock, such as the London and North-Western, the handle painted red on the side of the carriage belonging to that Company must be pulled or put into one of the end notches, or into the position marked "Auto.," unless the brake is defective, when it should be put into the centre or "Cut off" position.

14. Vacuum pipe connections when not in use must be placed securely on the dummy plugs provided for that purpose.

15. To couple the hose pipes the porter must take one in each hand, lift them up sufficiently high to hook the bottom horns of the couplings together first, then by lowering them place the top horns of the couplings in the slots.

16. To uncouple the hose pipes, the porter must simply lift them straight up, when the horns at the top will come out of the slots, and the couplings will then separate. Porters when coupling or uncoupling must have their hands quite free from cotton waste or anything else that would be likely to be drawn into the pipes by the suction of the vacuum.

17. In the formation or marshalling of trains when the whole of the coaches are not fitted with the

automatic vacuum brake, those that are so fitted must be placed together, and next to the engine.

18. Carriage washers must not allow any water to remain on the hose pipes or plugs when washing the vehicles, as any water left upon the pipes and plugs during frost the pipes and plugs would freeze, and cause delay and inconvenience in fixing the pipes on the plugs.

Instructions for Working the Automatic Vacuum Brake.

This brake can be applied throughout the train by the driver from his engine or by the guard from his van.

Drivers' Instructions.—Before starting see that your gauge indicates at least 18 ins. of vacuum. This is done by admitting steam to the small ejector by means of a steam cock placed for that purpose. To apply the brake, move the lever on the combination ejector to "On." In ordinary running the lever must stand at "Running position." To release the brake move the lever to position "Off. *When the vacuum is suddenly destroyed in the main pipe, the brake is full "On."* When separated from your train, see that the hose couplings are placed upon the plugs fixed for that purpose.

Guards' Instructions.—To apply the brake, press down the lever on the valve placed in the guard's van. This admits air throughout the train pipe, and is to be only used in cases of emergency. This valve opens automatically when the brake is applied with full force by the driver, and ensures rapid action. See that all the flexible hose-pipes between the carriages, and between the carriages and engine, are properly coupled together, and that the couplings on the end vehicles are placed upon the plugs. See by your gauge that a vacuum of 15 ins. is maintained. Report otherwise to the driver, and mark your report sheets accordingly, with cause, &c.

General Instructions.—To release the brakes for shunting purposes, the engine having left the train, first see that the hose coupling at one end of the train is taken off the plug, then pull the cord which is fixed under the body of each carriage, as shown by the arrows painted red. This admits air to the top side of the cylinder, and the brakes come off by gravity.

By Order,

General Offices, Barrow,
December 13th, 1890.

GREAT NORTHERN RAILWAY.

Vacuum Brakes.

Instructions for working the Vacuum Brake either as a Simple or Automatic Brake when the Carriages, &c. are fitted with the Combination Brake or the Automatic Brake only.

The attention of station masters, foremen, guards, porters and others is drawn to the arrangement under which carriages and other vehicles fitted with the simple or automatic apparatus can be used, either for the application of the simple or automatic brake, the arrangement consisting of a short lever at each end or side of the carriage or other vehicle, having a quadrant with the letters "Auto." at one end, and "Simp." at the other, indicating automatic or simple.

When carriages or other vehicles are attached to an automatic train, the lever must be turned to "Auto.," and when to a simple brake train to "Simp." When the brake is out of order the lever should be set straight up and down, cutting off the brake connections.

To release the brake from any carriage, &c., pull the cord, the position of which is indicated by a red star on each side of the vehicle. The brake can be applied throughout the whole of the vehicles fitted with the apparatus by the engineman from the engine, or by the guard from his van, but in order that this may be done it is imperative that the flexible connections between each vehicle and between the engine and the train shall be properly coupled together, and the flexible pipe at the rear end be put carefully on the plug.

Special Instructions to Guards.

Guards must see that the gauge in their vans indicates 18 inches of vacuum before starting, and they must at all times be ready to apply the hand brake should the driver call by whistle for its assistance, or when approaching a stopping station.

When carriages are to be slipped the pipes must be put upon the plug, and the cord pulled to release the brake. The carriage, after being slipped, must be brought to a stand with the hand brake.

Special Instructions to Engine Drivers.

Before starting the driver must see that the gauge indicates at least 18 inches of vacuum, and that it be maintained during the journey. The vacuum is created by admitting steam to the small ejector. To release the brake close the application valve, when the brake-blocks will fall from the wheels.

When the automatic vacuum brake is to be used for the ordinary stoppage of trains, it must be done by the engineman opening the application valve on the engine gradually, not suddenly or with full force, except in cases of emergency.

At any station where there is likelihood of vehicles being put on or taken off, the vacuum in the continuous pipe must be destroyed by opening the application valve on the engine so that there may be no delay in coupling or uncoupling.

General Instructions.

All passenger trains must be fitted with a continuous brake.

When a train, which ordinarily consists of vehicles fitted with a continuous brake, is not so fitted throughout, the front half, at least, must be fitted and worked with a continuous brake.

The working of these brakes by the engineman will not relieve guards from any responsibility. They must keep a good look-out, and be prepared to apply hand brakes should necessity arise.

Station-masters, inspectors, and foremen must select experienced men to couple together the pipes of vehicles fitted with any air brake, and must carefully examine the couplings before starting train. They must give special attention to the proper coupling of air brake pipes, and make such arrangements as will ensure these pipes being cared for, and not improperly used.

Guards *must see* that pipes of air brakes are properly coupled together *before starting*, and whenever any engine or vehicle is attached or detached; and they must, whenever the train stops at a station, examine the pipes and couplings.

In vehicles fitted with vacuum and also with Westinghouse brake pipes, the latter must, when such is practicable, be above the vacuum pipes.

The communication cord must be attached to lever of brake of engine. The cord must be given by platform porter to engineman or fireman, who must attach it to brake lever.

When vehicles fitted with continuous air brake are left in sidings or at stations, the brake pipes of each vehicle must be coupled together, and not left hanging loose. Porters and others are cautioned that in passing between vehicles *they must not step upon*

the brake pipes, nor interfere with or injure the connections.

Guards must report specially and also enter on their journals full particulars of any defect, failure, or unsatisfactory working of the brake of their train, or any portion of the fittings, couplings, &c., whether vacuum, Westinghouse, hand, or other brake.

The head guard of a train provided with a continuous brake must, before starting train, and at places where engines are changed, inform the engine driver the number of vehicles there are on the train, and upon how many of them the brake can be applied; and when any vehicles are attached or detached on journey, the engine driver must be advised, and told whether the attaching or detaching of such vehicles will interfere with working of brake on whole or a portion of train, and, if the latter, to what extent.

The engine driver of a train provided with a continuous brake must, before starting, and at places where engines are changed, ascertain from the head guard the number of vehicles there are on the train, and upon how many of them the brake can be applied, and, when any vehicles are attached or detached on journey, whether the attaching or detaching of such vehicles will interfere with working of brake, and, if so, to what extent.

Terminal stations must be approached cautiously, and guards must apply their hand brakes, should there be any reason to suppose the engineman has not the train well in hand, or that there is the least risk of not being able to stop at entrance to station. Guards must have their hands on their hand brakes when passing the distant signal of a terminal station, and must so remain and be ready to apply brakes until train is stopped at station.

Enginemen must test the brake before starting, at each station where engine is changed, and again at each station where any vehicle is attached or detached. They must satisfy themselves, before passing the distant-signal of any station at which the train has to stop or reduce speed, that the brake is in good working order, and on passing the distant-signal of any terminal station the brake must be applied and speed of train reduced by it. The train must not be allowed to travel between the distant-signal and any terminal station at a higher rate of speed than will admit of its being stopped at entrance to station by the application of the ordinary hand brakes only. Enginemen must from time to time, and whenever they are likely to have to make use of the brake, test its working, and must not at any time run more than 20 miles without trying the brake. They must not pass the distant-signal of any important station, such as Hat field, Hitchin, Peterboro', Retford, Doncaster, &c., nor go down any incline, without trying the brake, and must in each case satisfy themselves it is in good working order. Unless the brake is working properly when thus tried, the engineman must whistle for the guards' hand brakes, stop the train, and inform the guards the continuous brake is out of order, and the hand brakes must be relied upon for working the train. Special care must then be taken in approaching stations at which the train has to stop.

The brake must also be tested on—

All up trains when passing Holloway station (London),

All down trains when passing Meadow Lane junction (Nottingham),

All down trains when passing Hammerton Street junction (Bradford),

All down trains when passing the goods yard junction, Dewsbury,

All down trains when passing the junction with Midland Railway, Keighley,

All down trains when passing the down distant-signal of the Midland junction at Shipley.

A chain with hook is attached at each end of the several vehicles composing the coaching stock. This hook must be put round the rod of the screw coupling, immediately above the ball, to prevent the latter touching the brake pipes. Station masters, guards, and others must report any case of the suspended weight of a screw coupling being found above side chain or brake pipe.

Guards must inform enginemen of the number of carriages on their train which are not fitted with brake apparatus, but with through pipes only.

Vacuum brake pipe connections, when not in use, must be securely placed on the studs provided for the purpose.

Circular No. 5887a is cancelled.

P. Stirling,
Locomotive Engineer.
Francis P. Cockshott,
King's Cross, Superintendent of the Line.
31st December, 1887.

GREAT WESTERN RAILWAY.

Description of and Instructions for Working the Continuous Automatic Vacuum Brake, to commence 15th May 1892.

Description.

1. The Automatic Vacuum Brake stops the train by the application of the brake-blocks to the tyres, in the same way as the ordinary screw brake; but the levers which apply the blocks instead of being worked by a screw are worked by a cylinder and piston, actuated by atmospheric pressure.

2. The following are the principal parts of the apparatus on the carriages, the reference letters showing the corresponding parts on the diagrams given below :—*

A, continuous pipe, connected by flexible pipes between the carriages.

B, hollow piston rod, connected by branch pipe to the continuous pipe.

C, piston.

D, cylinder, capable of moving freely up and down on the fixed piston, and connected at the bottom with the brake levers E.

The piston is packed with an india-rubber ring, so arranged that air can pass freely from the bottom of the cylinder to the top, but not from the top to the bottom. The piston-rod is also packed with an india-rubber gland.

3. *Brake off.* The air is exhausted from the pipes and cylinders, by the ejector on the engine when the train is at rest, or by the air-pump on the engine when the train is in motion. The gauges on the engine and in the guards' compartments indicate the power available for stopping the train, and should show not less than 20 inches nor more than 25 inches of vacuum *when the train is running*. The vacuum being equal on both sides of the piston, the cylinder falls by its own weight and holds the brakes off the wheels. (See Fig. 1.)

4. *Brake on.* The moment air is admitted into the continuous pipe, whether by the engineman or by the guard, or by the accidental severance of the couplings, it rushes through the continuous pipe down the hollow piston-rod into the *upper* part of the cylinder, and, pressing the india-rubber packing-ring against the sides of the cylinder, seals the vacuum on the under side of the piston, so that the pressure of air in the upper part of the cylinder, having nothing to balance it on the other side of the piston, thrusts up the cylinder and presses the brake blocks against the wheels. (See Fig. 2)

5. *Release of Brake.* When the brake has been applied it will remain on, unless released either by the exhaustion of the air from the upper side of the piston (see par. 3) or by the admission of air to the under side of the piston.

For diagram, *see* [C.—3873.]

6. *Release Valves.* The majority of vehicles are fitted with release valves for releasing the brake by hand, as shown at F on diagram. These valves can be opened by pulling the handle fixed on each side of the vehicles.

7. *Brake Setters.* In order to apply the brakes on each carriage in the train as nearly as possible at the same moment, it is necessary to admit the air to the continuous pipe in more than one place. For this purpose a valve or brake setter is provided in each guard's compartment, so constructed that any sudden increase of pressure in the pipe instantly causes the valve to open automatically and admit a supply of air, after which it closes again by its own weight. By lifting the handle attached to the brake setter the guard can on an emergency apply the brakes on the entire train.

Formation of Trains.

8. The brake can be applied to the vehicles fitted with the apparatus, by the engineman from the engine, or by the guard from his van, but in order that this may be done, it is imperative that the flexible connections between each carriage, and between the engine and the train, be properly coupled up.

9. In the formation of trains, vehicles fitted with the automatic vacuum brake, or with the connecting pipe only, must be placed all together, and next to the engine. The automatic vacuum brake must not be used for ordinary stoppages, unless two-thirds of the whole train is fitted with that apparatus, except in cases of emergency. When the automatic vacuum brake is not used, the train must be controlled for ordinary stoppages by the hand-brake on the engine and the guards' hand-brakes.

In order to calculate the number of vehicles in a train, so as to determine whether two-thirds of them are fitted with the automatic vacuum brake, the following table must be used: —

Engine must be counted as	2	vehicles
Tender " "	1	"
Eight-wheeled carriage as	2	"
Other passenger carriages as	1	"
Fish-van or other four-wheeled vehicle not carrying passengers	½	"
Carriage truck	½	"
Horse box	½	"

10. Other railway companies' vehicles fitted with the automatic vacuum brake may be coupled up and worked with G.W.R. stock. Midland, London and South-Western, South-Eastern, and Lancashire and Yorkshire vehicles have a valve for releasing the brake by hand, which can be opened by means of a rod or wire at the side of the vehicle. London and North-Western carriages have a handle at each side; and when attached to G.W.R. vehicles should have the handle put into the position marked "auto," unless the brake is defective, when it should be put in the centre or "cut-off" position.

Starting of Trains.

11. The rear guard, before giving to the front guard or to the driver, as the case may be, the signal to start at the commencement of the journey, and at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain—

1st. That all vehicles throughout the train fitted with the automatic vacuum brake, or pipe, have the flexible pipes properly coupled up:

2nd. That the flexible pipe at the rear of the last brake vehicle is properly placed upon the stop plug:

3rd. That at least 15 inches of vacuum is indicated by the gauge in the rear van on the train.

If he find that all is right to proceed, the usual signal to start must be given, and the driver must regard that signal not only as an order to proceed but as an assurance that the continuous-brake apparatus is in proper order; that it is applicable to the whole of the vehicles on the train; and that there are at least 15 inches registered on the gauge in the rear van of the train.

In the event of there being any vehicles on the train not fitted with the vacuum brake, or fitted with the continuous pipe only, the driver must be informed verbally of the number before starting, and he must be kept informed in this respect at intermediate stations where the formation of the train is interfered with.

Where there are two or more guards on the train, the signal to start must be given by the rear guard to the front guard, and by the front guard to the driver. In like manner, if there are any vehicles to which the vacuum brake cannot be applied, that information must be given by the rear guard to the front guard as soon as the formation of the train is complete, and by the front guard to the driver before he gives the signal to start.

When less than two-thirds of the whole train is fitted with the automatic vacuum brake, the driver must be informed of this fact, in the manner indicated above, and that he must not use it except in cases of emergency.

The instructions given in this rule do not apply to trains made up entirely of vehicles fitted with a continuous brake, running daily with the formation unaltered and the brake complete. When, however, in such cases the formation is altered, or vehicles are attached or detached, the guard and the engine-driver must communicate with each other.

12. In the case of vehicles fitted with the combined hand and vacuum brake, the guard must see before starting that the hand brake is screwed "full off," and the handle secured by means of the chain provided for the purpose.

13. The driver, before starting, must be careful to see:—

1. That the vacuum pipe of his engine is properly coupled up to the leading vehicle of the train:
2. That at least 15 inches of vacuum is registered on the gauge on the engine.

If he receives the signal to start without being informed that any vehicles are not fitted, he must accept that signal as an order to proceed, and as an assurance that the continuous-brake apparatus is in proper order; that it is applicable to the whole of the vehicles on the train; and that at least 15 inches is registered in the gauge on the rear van of the train.

If he be told that less than two-thirds of the whole train is fitted with the continuous brake, he must not use it for ordinary stoppages, but only in cases of emergency.

14. If from any cause the engineman is unable to obtain at least 15 inches of vacuum, he must inform the guard of the fact, and they must work the train forward with the ordinary hand brakes.

Stopping of Trains.

15. Guards must never apply the automatic vacuum brake except in cases of absolute necessity, and whenever they do so a full report of the circumstances must be made on their journals. They must at all times be ready to apply the *hand brake* should the engineman call by whistle for its assistance.

16. When the automatic vacuum brake is to be used for the ordinary stoppage of trains, it must be by the engineman opening the air valve on the engine, but it must be done gradually and never suddenly or with full force, except in cases of emergency.

17. When less than two-thirds of the whole train is fitted with the automatic vacuum brake apparatus, it must not be used for ordinary stoppages, but only in cases of emergency. When the automatic vacuum brake is not used the train must be controlled for

ordinary stoppages by the hand-brake on the engine and the guards' hand brakes.

18. Many of the slip coaches are fitted with special apparatus to enable the automatic vacuum brake to be worked independently of the main train after the carriage has been slipped. Guards working slip coaches must make themselves thoroughly acquainted with the special directions posted in the brake compartment of the slip coaches.

19. In approaching terminal stations, stations at which other trains may be standing on the same line of rails, or crossing stations on single lines, at which the train has to stop, enginemen must test the continuous brake before passing the distant-signal, and the speed of the train must be reduced by it; and enginemen must always enter such stations (or a dead-end bay at any station) at such a speed as to enable them to stop the train at the proper place by the application of the ordinary hand-brake only. The automatic vacuum brake or steam brake must only be used in cases of emergency, and guards must watch the speed of trains, and assist enginemen by the use of the hand-brake when necessary. Unless the continuous brake is working properly when thus tried, the engine-driver must whistle for the guard's hand-brake, and inform the guard, as early as practicable, that the continuous brake is out of order, and the hand-brake must then be relied upon for working the train. Special care must then be taken in approaching stations at which the train has to stop.

20. Just before coming to a stand, after the application of the automatic vacuum brake at stations, or when stopped on the road, the engineman must use his ejector so as to partially release the continuous brake. This will prevent any rebound of the carriages, and will also enable the engineman to start his train immediately on receipt of the signal to do so. The fireman must keep his hand-brake on until on the point of starting the train.

21. In the event of a train parting, the guard in the rear portion must at once apply his hand-brake, and keep it tightly screwed on until the train is again coupled to the engine.

General Instructions.

22. In running through slip stations after a slip carriage has been detached, the vacuum brake must not be used except in cases of emergency. If it is necessary to control the speed of the train, the hand-brake must be employed, and in any case the greatest caution should be used to prevent the slip carriage overtaking the train.

23. In descending inclines, the engineman must, when necessary to reduce the speed, use the automatic vacuum brake in preference to the hand-brakes.

24. At any station where there is any likelihood of vehicles being put on or taken off, the vacuum in the continuous pipe must be destroyed by opening the air valve on the engine, so that there may be no delay in coupling or uncoupling.

25. As india-rubber is dissolved by oil or grease, it is most important that nothing of a greasy nature should be applied to, or allowed to reach the piston or piston rod. The only lubrication which is required is a little pure blacklead, which must be placed inside each cylinder by the persons appointed for the purpose. The other part of the brake must be cleaned and oiled by the examiners in the usual way.

26. It is necessary that the words "Continuous Brake Train" shall be written at the top of the engineman's train-bill and guard's report for every train fitted with the automatic vacuum brake. It is also necessary for the engineman to show on his mileage ticket the trains which have been worked by him with a continuous brake during the week.

27. If from any cause the automatic vacuum brake is not used, or fails to act when required, or if there is any irregularity in its working, a remark to that effect must be made by the guard on his report, and by the engineman on his train-bill, which must be accompanied by a special report giving full particulars of the irregularity.

28. Guards must take care during the journey that nothing in the van is allowed to rest against or in any way interfere with the lever of the brake setter.

29. When the pipes between the engine and train are disconnected, the couplings must be placed on the plug stops provided for the purpose. Detached carriages must always have the hose couplings placed on the plug stops.

30. Porters and others are cautioned that they must not pass between the vehicles over the flexible tubes while a train is standing at a platform.

31. When more than one engine is working a train, the leading engineman must control the brakes for ordinary stoppages.

These instructions cancel all previously issued on this subject.

N. J. Burlinson,
Superintendent of the Line.
W. Dean,
Chief Locomotive Superintendent and Engineer.
March 1892.

LANCASHIRE AND YORKSHIRE RAILWAY.

Instructions to Engine Drivers and Guards respecting the Automatic Vacuum Brake under the Control of the Driver.

1. The brake can be applied throughout the train by the driver from the engine, or by the guard from the van. The amount of brake power at command depends on the amount of vacuum obtained.

2. It is the duty of the fireman, when the engine is attached to the train, to connect the hose coupling on the engine to that on the train; and when the engine is separated from the train, to place the hose coupling of the engine on to the plug provided for the purpose. The driver must see that the fireman attends to this.

3. Before starting, the driver must see that the gauge indicates at least 18 inches of vacuum. This is done by admitting steam to the small ejector by means of the steam cock provided for that purpose. To apply the brake, move the lever on the brake valve to "*On*." In ordinary running this lever must stand at "*Off*," or "Running Position."

4. Previous to engines or vehicles being attached or detached the vacuum in the train pipe must be destroyed by opening the application valve, so that there may be no delay in coupling and uncoupling, and to avoid damage to the couplings. After the train has again been made up, and before it is started, the release wire under the body of each vehicle must be pulled.

5. To couple the hose pipes, the fireman, shunter, or porter must take one in each hand and lift them sufficiently high to hook the bottom horns of the coupling together first, and then, by lowering them, place the top horns of couplings in the slots.

6. To uncouple the hose pipes, the fireman, shunter, or porter must simply lift them straight up, when the horns at the top will come out of the slots, and the couplings will then separate.

7. Guards must record on the journals the amount of vacuum registered when starting with their train.

8. It is the duty of the shunter or porter to connect the hose couplings between the carriages, and to place the hose coupling in the rear of the last vehicle on to the plug provided for that purpose. The guard must see that this has been properly attended to.

9. To release the brakes (the engine having left the train), first see that the hose coupling at one end of the train is off the plug; then pull the wire fixed under the body of each carriage as indicated by the arrows. This admits air to the top side of the cylinder, and the brakes fall off by gravity.

10. A chain with hook is attached to each end of the several vehicles composing the coaching stock. The shunter must put this hook round the rod of the screw coupling immediately above the ball, to prevent the latter touching the brake pipes.

11. *The guard is not to make use of the brake except in cases of emergency.*

12. When the guard has occasion to apply the brake, he must press down the lever on the valve placed in his van. This admits air throughout the train pipe. This valve in the van opens automatically when the brake is applied violently by the driver, and ensures rapid action; it should, however, only be so applied in cases of emergency. The guard must see by the gauge that a vacuum of at least 18 inches is maintained, or report otherwise to the driver.

13. In case of a break-loose the guard in the rear van must put the hand brake hard on, and place the strap on the wheel, before going back to protect his train. When a train or any portion of the same is detached, the vacuum brake must not be depended upon, but the hand brake must be used where there is one available; in other cases scotches must be utilised, so as to prevent the vehicles moving after the vacuum has been exhausted.

14. In order that engine drivers, before starting from stations with trains fitted with the automatic brake, may know when the brake connections are complete, the man whose duty it is to couple up the hose pipes must, as soon as the work is done, inform the guard that all is ready for the vacuum to be created. The driver must not open the ejector until the guard, by exhibiting steadily a white hand signal, indicates that he may do so.

15. Before giving the signal for a train to start, the rear guard must satisfy himself that the vacuum gauge in his van shows not less than 18 inches of vacuum. If the gauge does not show the proper amount of vacuum, the guard must hold up steadily a white flag or hand lamp towards the driver, and continue to exhibit it until the necessary vacuum is reached.

16. Engine drivers must test the continuous brake before passing the distant-signal of any terminal or junction station at which the train has to stop. Should the brake not be working properly when thus tried, the driver must whistle for the guard's hand brake, and inform the guard that the continuous brake is out of order, and that the hand brake must be relied upon for working the train.

Engine drivers are prohibited from using the automatic brake after passing the end of the platform at which they have to stop when approaching terminal and the following junction stations: Blackburn, Bolton, Manchester, Preston, Wakefield, York, and when entering all bay sidings. The train must be brought to a stand in its proper position by the use of the hand brake alone. The guard will be held responsible for applying the hand brake in his van.

Should it be necessary through any emergency to apply the continuous brake after passing the end of the platform, both the driver and the guard must specially report the circumstances. *See* Special Order M 7938.

17. When backing an engine to a passenger train before coupling up, the fireman must stand by his hand brake.

18. In the event of there being any vehicles on the train not fitted with the vacuum brake, the head guard must inform the engineman of the fact before starting, so that the engineman may know what number of vehicles he has control over, and what number are without the vacuum brake, the guard applying the manual brake for each stop.

19. Should the automatic vaccum brake altogether fail on a train fitted with a manual brake on the van at each end of the train, the driver must advise the guard, who must then work the rear brake if there is only one guard with the train; and if the train consists of more than six vehicles, and there is more than one brake-van on the train, the guard must obtain a porter to take charge of the extra van. These instructions will also apply in case of a non-vacuum engine being provided to work a train of vacuum stock

20. Guards must be careful that luggage, &c., is arranged in the vans so that nothing can rest against or in any way interfere with the application valve lever.

J. A. F. Aspinall, Chief Mechanical Engineer.
Chas. J. Nicholson, Superintendent.
Manchester, July 1891.

LONDON AND NORTH-WESTERN RAILWAY.

Continuous Brakes.

Instruction of Staff in use of Continuous Brakes.

Inspectors in the Carriage Department have been appointed to instruct the staff at the several stations, as well as the guards, in the manipulation of the brake and its fittings, in addition to which, at the following stations, there are men specially appointed to look after the vacuum brake apparatus, and any defect occurring in working must be pointed out to them by the guards and drivers immediately on arrival at any of those places:—

Euston,	London Road,
Broad Street,	Exchange,
Willesden,	Leeds,
Bletchley,	Chester,
Northampton,	Llandudno Junction,
Peterborough,	Bangor,
Rugby,	Holyhead,
Birmingham,	Bolton,
Walsall,	St. Helens,
Wolverhampton,	Wigan,
Dudley,	Preston,
Derby,	Windermere,
Nuneaton,	Carlisle,
Stafford,	Shrewsbury,
Crewe,	Craven Arms,
Liverpool,	Abergavenny Junction,
Stockport,	Swansea.
Longsight,	

Should it be necessary at any time to send brakesmen or porters in charge of the trains in lieu of the ordinary guards, care must be taken to ascertain that they understand the instructions for working the continuous brake, which will be found posted up in each of the vans.

Vacuum Brake on West Coast Joint Stock, London and North-Western Railway, and Caledonian Railway Brake Vans.

On arrival at Carlisle of the through West Coast trains, the London and North-Western Company's fireman must leave the vacuum pipe off the stopper when he uncouples his engine from the train. This will enable the stored-up power reserved in each vehicle to be properly destroyed. The Caledonian fireman will put the vacuum pipe on the stopper when he couples his engine on to the train.

Working of the Vacuum Brake during Frost.

Notice to Locomotive Foremen and Enginemen.

In order to prevent the accumulation of ice in the pipes of the vacuum brake apparatus on engines and carriages during frosty weather, enginemen are hereby instructed that before leaving the shed to work a train they must remove the tail pipe from the stopper at

the back of the tender, or both on tank engines, and give a good blow through with the large ejector. This must also be done before leaving their engines on the shed when finishing work.

Before starting with a train, and also at the principal stations at which the train is timed to stop, they must give the pipes a good blow through with the large ejector while the tail pipe of the rear vehicle of the train is off the stopper, so as to clear out any moisture that may have formed in the pipes.

A man will be appointed, belonging to the Locomotive Department, to remove and replace the tail pipe, and enginemen, on arrival at a station where the pipes are to be blown through, must look out for the person told off for this duty, who, after removing the tail pipe, will signal to the driver when to blow up, and who will replace the pipe on the stopper after the pipes have been cleared by the large ejector.

The locomotive foreman of each district must use his own discretion when to appoint men for this duty, being guided by the severity or otherwise of the frost. He must also, at his discretion, arrange for the vacuum-brake pipes between the engine and tender to be uncoupled while the engines are standing in the shed.

To Brake Attendants, Carriage Couplers, Guards, &c.

Instructions for Working the Automatic Vacuum Brake.

Description.

1. The automatic brake is continuous throughout the whole length of the train—each vehicle carrying its own reservoir and cylinder, which are connected by a branch pipe to the main train pipe. Should a train fitted with this brake become divided when running, the hose-pipes will become detached, and the brake will go on throughout each portion of the train.

2. The brake power available depends upon the amount of vacuum maintained by the driver. It is therefore necessary that at least 18, and not more than 20 inches of vacuum be maintained in the rear van whilst the train is in motion.

3. There are two gauges in the van, one showing the amount of vacuum in the train pipe, and the other the amount of vacuum in the reservoir of the brake-van.

4. The brake is applied by the driver admitting air into the main train pipe, or by the guard opening the valve on the iron stand-pipe fixed near his seat. The guard must only apply the vacuum brake in cases of emergency. The valve must be kept open until the needle of the train-pipe gauge goes back to zero.

5. When a sudden application of the brake is made, the valve in each guard's van will open automatically, thereby admitting air into the main train pipe, and thus ensuring a rapid application of the brake. The brake is released by the driver re-creating the vacuum throughout the whole train.

Arrangements for Cutting-off Brakes.

6. On all vehicles there is a quadrant and lever on each side of the sole-bar.

(On some of the carriages the word "simple," appears instead of "release," but this will gradually be made uniform with the description above named.)

The brake can be released on the different kinds of vehicles (the hose-pipe being first taken off the stopper at one end of the train or vehicle), as follows :—

1st. By moving the lever from "auto" to "simple," or by pulling the wire which will be found close to the lever.

2nd. By moving the lever from "auto" to "release" or "cut off."

The hose-pipe in each case must be off the stopper at one end of the train or vehicle.

When the brake gear on any vehicle is out of order, from leakage or any other cause, the lever on the sole-bar must be moved into the "cut-off" position, but care must be taken that the brake is properly released before doing so. This will prevent the brake gear from working on that vehicle, but will not interfere with the brake on the remainder of the train.

Starting.

7. In order that engine-drivers, before starting from stations with trains fitted with the automatic brake, may know when the brake connexions are complete, the man whose duty it is to couple up the hose-pipe must, as soon as the work is done, go to the guard and tell him all is ready for the vacuum to be created. The driver must not open the ejector until the guard, by exhibiting steadily a white flag by day and a white light by night, indicates that he may do so.

8. Before giving the signal for a train to start, the *rear* guard must satisfy himself that both the gauges in his van indicate at least 18 and not more than 20 inches of vacuum, and that both gauges indicate the same amount of vacuum. *It will also be his duty, at all places where there are no carriage-brake examiners in attendance, to see that the quadrant handles on the sole-bars of the carriages are in the "auto" position.*

If the gauges do not show the proper amount of vacuum, the guard must hold up steadily a white hand signal towards the driver, and continue to exhibit it until the necessary vacuum is created.

When the gauges show that the proper amount of vacuum has been created, the brake must be tested by the guard applying it from the rear van.

The driver will recreate the vacuum, and no further brake signal will be given.

9. This test must always be made by the guard before starting the train from the station at which it was made up, or from any place at which the continuity of the brake has been interfered with by engines or vehicles being attached or detached.

10. Where two engines are attached to a train, the hose-couplings between the engines must be connected, nd the driver of the leading engine will be held responsible for the working of the brake.

During Journey.

11. Guards must see that during the journey nothing is placed so as to interfere with the lever of the emergency-valve in the brake-vans.

12. If, during the journey, the guard should notice anything wrong with the brake apparatus, or should either of the vacuum gauges show less than 18 inches, he must call the driver's attention by pulling the communication cord and showing to the driver a green flag or hand lamp. This will signify to the driver that the vacuum brake must not be relied upon for pulling up the train at the next stopping station, and the guard must be prepared to assist the driver with his hand brake. In the case of trains not fitted with communication cord, the guard must apply his hand brake, when approaching the next stopping place, in sufficient time to bring the train to a stand at the platform without the aid of the vacuum brake, and must advise the driver of the state of the gauges in his van before proceeding.

13. Any irregularity or special circumstances in connexion with the working of the brake, or defect in its action, must be reported by the guard in charge to the superintendent of the line, as well as on his journal. The Carriage Department staff must be advised of the irregularity by both the guard and driver at the next stopping station. Guards must record in their books occasionally during the journey the amount of vacuum registered on the gauges. Should this at any time exceed 20 inches, the circumstance must be recorded by the guard on the engineman's ticket, the amount of vacuum maintained being stated.

14. The continuous brakes throughout the train being under the control of the driver, the use of the hand brake in the vans is not required for ordinary

stops, but guards must apply the hand brake immediately on its being called for by the driver's whistle, *and must in all cases use their hand brakes to assist in stopping trains on approaching terminal stations, bay sidings, or principal stations, and must not rely on the driver's pulling up trains by means of the vacuum brake.*

15. In case of a break-loose, the guard in the rear van must put the hand brake hard on, and place the chain on the wheel before going back to protect his train.

SHUNTING.

16. When vehicles have to be moved after the engine is detached, it must first be seen that the hose-pipe at one end is off the stopper. The brake must be released as shown in paragraph 6. *Care must be taken by the person in charge of the shunting to see that the lever on the sole-bar is returned to the "auto" position after the brake has been released.*

17. It is the duty of the fireman, when the engine is attached to the train, to connect the hose-coupling on the engine to that on the train; and it is his duty, when the engine is detached from the train, to place the hose-coupling of the front carriage on to the stopper provided for the purpose.

INSTRUCTIONS IN CASES OF DIFFICULTY IN WORKING THE AUTOMATIC BRAKE.

18. If the driver is, from any cause, unable to work the automatic brake, *the brake must be cut off, and the train worked by the hand brakes only*, the speed being so regulated as to enable the driver to have full control of the train by use of the hand-brakes only.

In all such cases guards must be on the alert and assist in stopping the train with their van brakes.

Foreign companies' vehicles not fitted with the automatic vacuum brake, nor with the through vacuum pipes, must be placed in rear of trains in which the automatic brake is in use.

G. FINDLAY,
General Manager.

Euston Station,
April 1892.

LONDON AND SOUTH-WESTERN RAILWAY.

Instructions to Enginemen, Guards, Carriage Examiners, and all others concerned, as to the use of the Continuous Automatic Vacuum Brake.

Description.

1. The automatic vacuum brake stops the train by the application of the brake blocks to the tyres of the carriages in the same way as the ordinary screw brake, but the levers which apply the blocks, instead of being worked by a screw, are worked by a piston actuated by atmospheric pressure in a cylinder.

2. The following are the principal parts of the apparatus on the carriages:—

The cylinder.
„ piston or diaphragm.
„ ball valve.
„ main train pipe.
„ flexible branch pipe, connecting bottom of cylinder to train pipe.
„ vacuum chamber, connected to top of cylinder.
„ miniature sack, to prevent the admission of air to the bottom of piston.
„ release lever or ball valve, connected to each side of carriage underframe by wire cord.
„ dummy.
„ "Universal" hose and coupling.

3. By means of the ejector placed upon the engine the air is drawn out of the main train pipe, and from the top and bottom sides of the piston or diaphragm in the cylinder through the flexible branch pipe and through the ball valve from the vacuum chamber, so that in running a vacuum should be maintained throughout the system of 20 inches, and certainly not less than 15 inches.

4. *Brake on.*—The brake is operated either by the brake valve on the engine in connexion with the main train pipe or by the guard pressing downwards the lever of the van valve, which is likewise connected with the main train pipe. The effect of this is to admit air to the train pipe, and thence through the flexible branch pipe to the bottom side of piston, thereby applying the brakes, the top side and vacuum chamber maintaining the vacuum through the action of the ball valve, which closes immediately air is admitted to the train pipe.

On a full application of the brake—from whatever cause—all the van valves in the train will open automatically and admit air through each van valve simultaneously, thus obtaining a more rapid application of the brake.

5. In the event of a train parting, the "Universal" hose and couplings will, without damage, become detached, and the brakes will immediately apply themselves.

6. *Brake off.*—In order to release the brakes the driver must move the lever of brake valve on the engine to the position marked "off," when the ejector will at once re-create the vacuum throughout the system as before described, thus allowing the piston to fall by its own weight and thereby release the brakes.

7. To release the brakes on any carriages that require to be shunted, in the event of the engine not having done so before being detached from the train, the ball valve must be opened on those carriages by means of a small wire cord which is placed on either side of the carriage underframe. This admits air to the vacuum chamber and top side of piston, thus restoring equilibrium on both sides of piston, under which conditions the brakes fall off by their own weight.

8. A dummy is provided to which the rear coupling must always be attached.

Instructions for working.

9. In the formation of trains, the coaches fitted with the automatic vacuum brake must be placed together next to the engine, so that the automatic vacuum brake may be used.

10. The brake can be applied throughout the whole of the vehicles fitted with the apparatus by the engineman from the engine or by the guard from his van, as before described; but in order that this may be done, it is imperative that the flexible connexions between each carriage and between the engine and the train be properly coupled up; also that the flexible connexion on the last vehicle fitted with the brake be placed on the dummy provided for that purpose as described in clause 8.

11. The brake must be used for ordinary stops, but must not be applied with full force except in cases of emergency. For ordinary stops, and particularly when approaching junctions where timed to stop, enginemen must be careful to reduce the speed, so that a moderate application of the brake will suffice.

12. Guards must not apply the automatic vacuum brake except in cases of absolute necessity, and whenever they do so a full and special report of the circumstances must be made, and the occurrence must also be notified on their journals; they must at all times be ready to apply the hand brake should the driver call for assistance.

13. In approaching terminal stations, or stations at which other trains may be standing on the same line of rails, the vacuum brake must not be used except

in cases of emergency, but the speed of the train must be so reduced that it may be brought to a stand by means of the hand and steam brakes alone.

14. In descending inclines the engineman must use the automatic vacuum brake in preference to the hand and steam brakes.

15. In running through slip stations after a slip carriage has been detached, the vacuum brake must not be used excepting in cases of emergency. If it is necessary to control the speed of the train, the hand brake must be employed; in any case the greatest caution should be used to prevent the slip carriage overtaking the train.

16. *Guards.*—The guard before giving the signal to start at the commencement of the journey, and at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain and inform the engineman—

(*a.*) That all the flexible pipes are properly coupled up continuously throughout the train, and that the flexible pipe of the last brake vehicle is properly placed upon the dummy.

(*b.*) The number of vehicles in the train fitted with the brake the flexible pipes of which are coupled up to the engine.

(*c.*) The number of inches of vacuum indicated by the gauge in the rear van.

17. *Enginemen.*—The engineman before starting at the commencement of the journey, and also at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain from the guard the number of vehicles in the train fitted with the brake the flexible pipes of which are coupled up to the engine, and the number of inches of vacuum shown by the gauge in the rear van.

He must also be careful to see—

(*a.*) That the vacuum pipe of his engine is properly coupled up to the leading vehicle in the train.

(*b.*) The number of inches of vacuum indicated by the gauge on the engine.

18. If from any cause the engineman is unable to obtain at least 15 inches of vacuum he must inform the guards of the fact, and the train must be worked forward with the ordinary hand and steam brakes, and he must report on his daily brake return when he is not able to obtain 20 inches.

19. When the pipes between the engine and train are disconnected, the couplings must be placed on the dummies provided for that purpose. Detached carriages must always have the hose couplings placed on the dummies.

20. At any station where the driver is informed that vehicles are to be attached to or taken off the train, the vacuum in the main train pipe must be destroyed, as described in clause No. 7, so that there may be no delay in coupling or uncoupling.

21. In the case of vans fitted with the combined hand and vacuum brake, the guard must see before starting that the hand brake is screwed full "off" and the handle secured by means of the chain provided for the purpose.

22. It is necessary that the forms specially provided for the purpose should be made out daily by enginemen working automatic vacuum brake trains, and be left with the daily return each night, and if from any cause the brake is not used, or there is any irregularity in its working a remark must be made by the driver on the form to that effect, and also by the guard on his journal.

The guard must also make a special report of the occurrence.

23. When vehicles are supplied with connecting pipes only, they must be considered as vehicles without the brake, but the brake connexions must be made as described in clause 10.

24. When vehicles not fitted with a continuous brake or having connecting pipes only, are attached to a train fitted with such brake, or to an engine having the brake on the engine wheels as well as the tender wheels, the guard in the rear van must, immediately upon the continuous or engine brake being applied by the driver, apply his hand brake, and keep it tightly on, either until the train has come to a stand or the driver has taken off his brake, and is again going forward, as the case may be. This arrangement is necessary to prevent the rebound of the carriages and possible breaking of the drawbars which may occur when a powerful brake is applied to the front portion of the train only.

W. Adams,
Locomotive and Carriage Superintendent.

E.W. Verrinder,
Traffic Superintendent.

London, November 1882.

LONDON, BRIGHTON, AND SOUTH COAST RAILWAY.

Westinghouse Automatic and Continuous Brake.

Description and instructions for working.

Description.

Compressed air is the agent employed to apply the brake. The air is compressed by a small engine and pump placed on the locomotive. The driver or any of the guards can apply the brake, *and it applies itself, in the case of a break-away, or the failure of its main pipe or couplings.*

The tender and each of the vehicles of the train are fitted with the following parts:—(1) a triple valve, (2) a supplementary air reservoir, and (3) a cylinder with piston; the latter in connexion with (4) the brake lever and blocks.

When a train is made up and ready to start, and also when it is running, compressed air stands at equal pressure throughout its length, that is to say, in the main reservoir, in the pipe from end to end of the train, and in the triple valve and supplementary reservoir on each vehicle.

To apply the brake, air is allowed by the driver to escape, or in an emergency, by any of the guards. This causes the triple valves to move down, the air stored in the supplementary reservoirs to pass instantly into the cylinders, the pistons and rods to be forced out, and the blocks to press against the tyres of the wheels.

To release the blocks from the wheels, air is allowed to pass from the main reservoir along the train. This moves the triple valves up, re-charges the supplementary reservoirs, and at the same time allows the air which had forced out the pistons to escape into the atmosphere.

Instructions.

Drivers must see (1) that the steam cylinder is kept well lubricated, (2) that the air pump is sparingly lubricated with a small quantity of mineral oil—tallow or lard oil must not be used in the air pump,—(3) that the pump is constantly run, but *never faster than is necessary to maintain the required air-pressure*, say for stopping trains 60 lbs., and for express trains 85 lbs.

The brakes must not be used with more than half the full force, except in case of danger.

The brakes are fully set when the pressure shown on the gauge is reduced 25 lbs. Any further reduction would be waste of air.

To apply the brakes lightly, the tap must be partially opened and gently closed when the pressure has been reduced from 4 to 8 lbs.

In releasing the brakes the handle must be moved against the stop and kept there for about five seconds, and then moved back just far enough to stop the flow of air from the small hole in the top of the tap.

Drivers, upon feeling the brakes are applied, must at once aid in stopping the train by turning the three-way cock and preventing escape of air from the main reservoir.

Guards.—After making up or adding to a train, or after another engine has been attached, the rear guard must ascertain whether the brake is connected throughout by examining the pressure in the gauge, slightly opening its escape tap, and ascertaining that air escapes, or, when a van is not the last vehicle, by opening the rear tap in the brake pipe.

Guards, when they have occasion to apply the brake from a van, must hold the handle and allow the air to escape until the train is brought to a standstill, but must only use the brake in case of emergency.

Guards *must, in all cases, screw the hand brakes clear off before starting.*

General.—Before detaching the engine, the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or tap when the engine is away, may cause serious inconvenience in shunting. The pipes and joints must be kept tight, and when leaks are discovered they must be corrected, if serious, before the vehicle is again used.

The brake pipe has a tap at each end of every vehicle, all of which taps should be open when the hose couplings are united, except the one at the rear of the train. These taps must always be opened *after* connecting the hose couplings, *and closed before separating them.*

If the brakes are applied by the separation of the train, or the breaking of a pipe, they can be released by opening the small taps in the brake cylinder or pipes leading thereto. These taps, after the release of the brakes, must be closed. If the brakes are applied after the engine has been disconnected, they can be released as above, or by again connecting.

It is important to observe that the taps at the ends of the vehicles are open when the handles stand across, or away from the line of pipe, and closed when parallel to, or alongside the pipe.

When the handle of the tap of the triple valve stands across, or away from the valve, it is set for the automatic brake. When against the stop at an angle of 45°, the brake is thrown out of use on the carriage.

Care must be taken (1) that the brake connections are perfect, and properly adjusted for the wear of the blocks and wheels, (2) that the brake cylinders are perfect and lubricated occasionally with *mineral oil*, and (3) that the couplings and other parts are right.

Carriage examiners must see that the cocks under each carriage are in their proper position before the train starts, so that it may not be delayed on the journey.

Shunters in all cases, after coupling the connexion pipes, must open the cocks at the end of each carriage except the last, so as to complete the brake throughout the train. In uncoupling, the connexion pipe cocks must be shut, but before doing so, shunters must satisfy themselves that the driver has taken the brake off, and that the hand brake at the rear of the train has been applied.

No person must tamper with the tap in the brake van, as by so doing the brake is instantly applied, and cannot be taken off again except by opening the cock under each carriage, or attaching the engine to the train.

Engine-drivers and guards are not to depend entirely upon the action and power of the brake, but, when approaching terminal stations, or junctions, must have their trains well under control, so that the trains can be brought to a standstill with the hand brakes, if necessary.

The engine-drivers and guards must ascertain before the departure of the train if the automatic brake is complete throughout the train.

Trains fitted with this automatic brake must not approach and enter terminal stations at a speed greater than that which has been usual with trains worked by the ordinary hand brake.

J. P. Knight,
General Manager.

London Bridge,
16th April 1878.

LONDON, CHATHAM, AND DOVER RAILWAY.

Westinghouse Automatic Air-brake.

Description.

Compressed air is the power employed to work the brake.

The air, compressed by an air pump on the engine into a main reservoir, flows through the driver's brake valve into the main brake pipe, which extends the whole length of the train, and fills on each carriage a small reservoir by means of the triple valve attached to it. Each triple valve is also connected to a brake cylinder. As soon as the pressure in the brake pipe is lowered, the triple valve piston on each vehicle is moved down by the greater pressure above it, stored in the small reservoir, which is then allowed to pass instantly into the cylinder, force out the piston and rod, and thus cause the blocks to press against the wheels.

The brakes are released by an increase of pressure in the main pipe, produced by allowing air to pass from the main reservoir along the train. This moves up the triple valves, recharges the small reservoirs, and at the same time allows the air which had forced out the pistons to escape into the atmosphere.

The driver or guards can apply the brake, and it applies itself in the case of a break-away or the failure of its main pipe or couplings.

Instructions.

Drivers must see (1) that the top or steam cylinder is kept well lubricated; (2), that the air cylinder is sparingly lubricated with the lubricant provided for the purpose; (3), that the pump shall be constantly run, but never faster than is necessary to maintain the required air pressure, say 50 to 60 lbs. for stopping trains, and from 70 to 80 lbs. for express trains.

For ordinary stops the brake should be applied lightly by turning the handle of the driver's valve to the right, and gently closing it again after a reduction of pressure in the brake pipe of not less than 5 lbs., nor more than 8 lbs., has been made. If the pressure runs up on the gauge when the handle is brought back, it shows that the valve has been shut too quickly.

In ordinary working the brakes are fully applied when the pressure shown on the gauge is reduced 25 lbs.

Any further reduction is waste of air. In case of emergency, however, the handle must be turned so as to let all the air in the brake pipe escape.

Long trains require more careful handling than short trains, and a greater quantity of air must be discharged from the brake pipe to make the same reduction per square inch on the gauge. The driver, before starting, must ascertain the number of vehicles on the train.

In releasing the brakes the handle must be moved quite against the stop to the left and kept there for about 10 seconds, or until the pointer on the gauge shows signs of rising, and then be moved back against the intermediate stop, which is the feed position, and *where it must remain whilst the train is running.*

Drivers must always satisfy themselves that the brake coupling on their engine is properly connected to that on the train, and that *the cocks on the brake pipe, except the one at the rear of the last vehicle connected with the brake, are open.*

The engine and tender brake blocks should be so adjusted that the pistons travel from 2 to 4 inches.

The drivers must be careful to drain the water out of the main reservoir and drip-cup once a week, and in winter time and frosty weather more frequently. The plugs in the triple valves and small reservoirs on engine and tender are to be taken out at least once a month.

If vehicles having different air pressures be coupled together, the brakes will apply themselves on those which have the highest pressure. To ensure the

certain release of all the brakes in the train, and in order that the train may be charged quickly, the driver must carry the maximum pressure in the main reservoir before connecting to the train. When coupled to the train, he must put the handle of his brake valve in the release position until the train is charged with air, and this is shown to have taken place when the pointer of the gauge begins to rise.

If the brakes on the engine and tender are found to apply themselves when the engine is coupled to a train not charged, they should at once be taken off by opening the release valves from the brake cylinders.

After connecting the engine to the train, or after new vehicles have been added, the pipes and reservoirs should be charged as quickly as possible. The brakes should then be applied with full force by the driver, who should not start away until the inspector or guard has signalled that the brakes are acting on all the vehicles.

Should the driver discover any defect in the working of the brake which will render it ineffective, he must at once give the guard notice, and arrange with him as to the use of the hand-brake in the van when necessary.

In running into terminal stations with buffer-stops and at junctions where he has to stop, and also when moving up to attach his engine to a train, the driver must not rely upon the continuous brake, but must so regulate the speed of the engine that the ordinary application of the hand-brake on the engine or tender will be sufficient to bring the train or engine to rest.

In ordinary stoppages at stations the driver must use the brakes so as to stop the train without any jerk.

When working the Westinghouse brake with two engines coupled together, the driver of the leading engine must take charge of the brake, and he must work it as he would on an ordinary train, not considering the second engine except as a vehicle. The driver of the second engine must keep his handle in the neutral position, and the donkey pump slowly and steadily working; by this means he shuts off all communication from the main reservoir to the train pipe, and the pressure in the reservoir is kept above that in the train pipe, otherwise the brakes would apply themselves by air escaping from the train pipe past the driver's valve to the main reservoir.

The driver, on finding that the brakes have been applied by the guard or automatically by burst hose or couplings parting, must at once aid in stopping the train by turning the handle of the driver's valve towards the right, thus preventing escape of air from the main reservoir.

The driver must enter on his ticket all cases of irregularity in the working of the brake, and call the attention of the examiner at the first station to any defect in the brakes of any of the carriages, and enter their numbers on his ticket.

Guards.—Before leaving the terminus, after adding to a train on the journey, or on another engine being attached, the rear guard must ascertain whether the couplings are connected and the cocks in the brake pipe are all open throughout the train by applying the brakes from his van and seeing that *they are released from the engine.* In making this test the pressure of the air in the pipes as shown by the gauge should not be reduced more than is absolutely necessary. If the brake is not in use on the whole train, or if the van is not the last vehicle, the test should be made by opening the cock in the brake pipe of the last vehicle connected.

A guard, when he has occasion to apply the brake from his van, must open the cock and allow the air to escape until the train is brought to a standstill, but he should only use the brake in cases of emergency.

Guards must in all cases screw the hand-brakes clear off before starting.

The guard must enter on his report all cases of irregularity in the working of the brakes.

Examiners (*Locomotive Department*).—Examiners must see (1) that the brake connections are perfect and properly adjusted for the wear of the blocks and wheels by being uniformly taken up. The pistons of double piston cylinders should each travel not less than two nor more than four inches. Those of single piston cylinders should not travel less than four nor more than eight inches; (2), that the brake cylinders are perfect and lubricated at least every three months with *mineral oil;* (3), that the hose couplings are united and the cocks in the pipes, except the one at the rear of the last vehicle connected with the brake, are open, that is, the handles must stand across or away from the pipe, except the one at the end of the train, which must lie along the pipe in the shut-off position; (4), that the joints are all air-tight; (5), that the cocks under the carriages connecting the triple valves with the train pipe are full open, and that the release valves on the brake cylinders are in proper working order, with the cords for opening them attached to the sides of the under frame. Examiners, on the arrival of a train, must ascertain from the driver if any irregularity exists in the working of the brake on the carriages, and take steps to remedy the defect, if there is time, before the train starts again. If it is found necessary to cut off the brake by closing the half-inch cock, the carriage must be at once reported, and sent to the shops on arrival at the terminus for examination.

Shunters and Porters, when making up trains or attaching carriages, must *always open the cock on the brake pipe at the end of each carriage after connecting the hose couplings,* except the one at the hind end of the last vehicle in the train, and *always close them before separating the couplings.*

After uncoupling, the loose ends of the hose-pipes must be secured in the hose clips provided for the purpose.

General.—Before detaching the engine or any carriages, the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or cock when the engine is away, may cause serious inconvenience in shunting. The pipes and joints must be kept tight, and when leaks are discovered they should be corrected, if serious, before the vehicle is used again.

If the brakes are applied by the separation of the train or the breaking of a pipe, they can be released by opening the small release valves in the brake cylinders or pipes leading thereto.

If the brakes are applied after the engine has been disconnected, they can be released as above or by again connecting the engine.

The brake of any vehicle can be put out of operation without affecting the others by closing the cock under the vehicle between the brake pipe and triple valve.

No person must tamper with the cock in the brake-van, as by so doing the brake is instantly applied and cannot be taken off again except by opening the cock under each carriage or by attaching the engine to the train.

November 1890.

Appendix to "Instructions to Drivers."

The "Instructions" of November 1890, on the working of the driver's brake valve, refer only to the original and older pattern of valve, and drivers must note that if their engines are fitted with the new equalising brake valve, the following instructions for working it must be carried out instead.

New equalising Driver's Brake Valve.

Instructions for Working.

Always reduce the pressure shown on the gauge not less than 8 lbs. in making the first application of the brakes. The second reduction can be any amount necessary, either large or small.

1st or Release Position.—Push the handle over to the LEFT as far as it will go against the stop.

2nd or Running Position.—Pull out the handle from the first position until it comes up against the first projection it meets with on the rim of the case.

This maintains the proper difference of pressure between the main reservoir and the brake pipe (say 20 lbs.) If any brakes creep on again when the handle is brought too soon to the running position after release, put it back to the release for a few seconds and then return it to the running position.

3rd or Neutral Position.—Move the handle a little further to the right, just over the first projection, until it lies against the other side of it.

This cuts off the connexion between the main reservoir and the train pipe.

4th Position for Ordinary Stops. — Turn the handle further to the right until it lies against the next or the second projection on the rim of the case.

5th Position for Quick or Emergency Stops. — Push the handle over to the RIGHT as far as it will go against the stop.

Positions of Handle.—1. Release: to the left as far as it will go. 2. Running: against the left side of the first projection. 3. Neutral: against the right side of the first projection. 4. Ordinary stop: against the left side of the second projection. 5. Quick stop: to the right as far as it will go.

The small spring-seated feed valve maintaining the extra pressure in the main reservoir must be taken out and wiped clean once a week.

PILOT RUNNING.

When two engines are coupled together, if the second engine is fitted with the new brake valve, the driver of the second engine must close the cock under the brake valve, and place the brake valve handle in the release position and leave it there, the driver of the first engine alone working the brakes.

As soon as the pilot engine is detached, the driver of the second engine should re-open the cock under the brake valve.

January 1891.

THE VACUUM AUTOMATIC BRAKE.

This Brake can be applied throughout the train by the driver from his engine, or by the guard from his van.

Drivers' Instructions.—Before starting see that your gauge indicates at least 18 inches of vacuum. This is done by admitting steam to the small ejector by means of a steam cock placed for that purpose. To apply the brake move the lever on the combination ejector to "on." In ordinary running this lever must stand at "running position." To release the brake move the lever to position "off." *When the vacuum is suddenly destroyed in the main pipe the brake is full* "on." When separated from your train see that the couplings are placed upon the dummies fixed for that purpose.

Guards' Instructions.—To apply the brake press down the lever on the valve placed in the guard's van. This admits air throughout the train pipe, and is to be only employed in cases of emergency. This valve opens automatically when the brake is applied with full force by the driver, and ensures rapid action. See that all pipes between carriages are properly coupled together, and that the couplings on the end coaches are placed upon the dummies. See by your gauge that a vacuum of 18 inches is maintained. Report otherwise to driver.

General Instructions.—To release the brakes for shunting purposes (the engine having left the train), first see that the hose coupling at one end of the train is off the dummy, then pull the cord which is fixed under the body of each carriage as indicated by the arrows. This admits air to the top side of the cylinder, and the brakes come off by gravity.

March 1885.

LONDON, TILBURY, AND SOUTHEND RAILWAY.

INSTRUCTIONS AS TO WORKING THE WESTINGHOUSE CONTINUOUS BRAKE.

Description.

Compressed air is the agent employed to apply the brake. On the engine there is a donkey pump for compressing air into a main reservoir. There is one 13 in. brake cylinder for the driving wheels, and one 8 in. for each other vehicle. A single line of pipe extends the entire length of the train. On the engine and each vehicle is a triple valve having one connexion with main pipe, and second connexion to a reservoir on each carriage, and a third connexion to the brake cylinder. The pipe from the main reservoir leads to a valve and thence to the train. This valve is operated by the driver, who, by the movement of the handle in one direction, admits air to the main pipe from the main reservoir in order to charge the small reservoirs and release the brakes when they are applied, and by moving it in the opposite direction, discharges air from the brake pipe to the atmosphere, and so applies the brakes. If a train breaks in two, the couplings come apart so as to permit the escape of air and the consequent application of the brakes. Similarly, if the pipe is fractured, the brakes are at once applied.

The operation is as follows:—The pump is started and air is compressed into the main reservoir. When the engine is coupled to the train, air passes into the pipe, triple valve, and reservoir on each carriage, charging all equally.

To apply the brakes, the pressure is lowered in the brake pipe by the driver operating his valve. This causes the triple valve to move so as to open a passage for the compressed air from each reservoir to its brake cylinder, the piston of which applies pressure to the levers and brake blocks.

The brakes are fully set when a reduction of pressure to the extent of 25 lbs., shown by the gauge, has been obtained; any further reduction is a waste of air.

The brakes are released by admitting air from the main reservoir to the brake pipe, which re-charges the pipe and triple valves and reservoirs, whilst at the same time a passage is opened from each cylinder to the atmosphere. A cock is placed between each triple valve and the main pipe, so that the brake on any particular carriage can be put out of use. The brakes of the detached portion of a train, if applied, can be released by holding open a valve on each brake cylinder. These release valves close automatically when not held open to release the brakes. There is a cock in each van to apply the brakes, and a gauge on the engine, and in each van to indicate the pressure in the main pipe; there is also a gauge on the engine to indicate the pressure in the brake cylinder.

Instructions.

Drivers must see:—(1) that the top, or steam cylinder of the air pump is kept well lubricated; (2), that the air cylinder is sparingly lubricated with the lubricator provided for the purpose; (3), that the pump is constantly run, but never faster than is necessary to maintain the required air pressure; and (4), that air from 60 to 65 pounds pressure is carried.

For ordinary stops the brake should be applied lightly, by turning the handle of the driver's valve to the right, and gently closing it again, after a reduction of pressure in the brake pipe of not less than 5 lbs. nor more than 8 lbs. has been made. If the pressure runs up on the gauge when the handle is brought back, it shows that the valve has been shut too quickly.

In ordinary working the brakes are fully applied when the pressure shown on the gauge is reduced 25 lbs.; any further reduction is a waste of air. In case of emergency, however, the handle must be turned so as to let all the air in the brake pipe escape.

Long trains require more careful handling than short trains, and a greater quantity of air must be discharged from the brake pipe to make the same reduction per square inch on the gauge. The driver, before starting, must ascertain the number of vehicles on the train and the number working with brakes or pipes only.

In releasing the brakes, the handle should be kept in release position until the pointer of the indicator shows signs of rising and then be moved back against the intermediate stop, which is the feed position, where it must remain whilst the train is running.

The driver must always satisfy himself that the brake coupling on his engine is properly connected to that on the train, and that the cocks in the brake pipe, *except the one at the rear of the last vehicle connected with the Westinghouse brake* are open.

The blocks of the driving wheel brake should be so adjusted, by turning the screw, that the pistons travel from 3 to 4 inches.

The driver must be careful to drain the water out of the main reservoir once a week, and in frosty weather more frequently.

If vehicles, having different air pressures, be coupled together, the brakes will apply themselves on those which have the highest pressure. To ensure the certain release of all the brakes in the train, and in order that the train may be charged quickly, the driver must carry the maximum pressure in the main reservoir before connecting to the train. When coupled to the train, he must put the handle of his brake valve in the release position until the train is charged with air, and this is shown to have taken place when the pointer of the indicator begins to rise. If the brakes on the engine are found to apply themselves when the engine is coupled to a train not charged they should at once be taken off by opening the release valve from the brake cylinders.

After connecting the engine to the train, or after new vehicles have been added, the pipes and reservoirs should be charged as quickly as possible. The brakes should then be applied with full force by the driver, who should not start away until the inspector or guard has signalled that the brakes are acting on all the vehicles.

The driver, before commencing a journey, must inform the guard whether the engine is fitted with the brake apparatus or not, in order that he may know how to act as to the use of the hand brakes.

Should the driver discover any defect in the working of the brake which will render it ineffective, he must at once give the guard notice, and arrange with him as to the use of the hand brake in the van, when necessary.

In running into stations with block ends, and at junctions where he has to stop, and also when moving up to attach his engine to a train, the driver must not rely upon the continuous brake, but must so regulate the speed of his engine that the ordinary application of the hand brakes on the engine will be sufficient to bring the train or engine to rest. In ordinary stoppages at stations, the driver must use the brakes so as to stop the train without any jerk.

The brakes must not be used with more than half their force, except in cases of emergency.

When working the Westinghouse brake with two engines coupled together, the driver of the leading engine must take charge of the brake, and he must work it as he would on an ordinary train, not considering the second engine, except as a vehicle.

The driver of the second engine must keep his handle in the neutral position, and the donkey pump working; by this means he shuts off all communication from the main reservoir to the main pipe of the train.

The driver, on finding that the brakes have been applied by the guard, or automatically, must at once aid in stopping the train by turning the handle of the driver's valve towards the right, thus preventing escape of air from the main reservoir.

The driver must enter on his engine ticket all cases of irregularity in the working of the brakes.

Guards.—Before commencing a journey must ascertain from the driver whether the engine is fitted with the Westinghouse brake apparatus or not, and before leaving the terminus, or after adding to a train on the journey, or on another engine being attached, the rear guard must ascertain whether the couplings are connected, and the cocks in the brake pipe are all open (except the one at the rear of the last vehicle connected with the Westinghouse brake) throughout the train by applying the brakes from his van and seeing that *they are released from the engine.* In making this test the pressure of air in the pipes, as shown by the indicator, should not be reduced more than is absolutely necessary. If the Westinghouse brake is not in use on the whole train, or if the guard's van is not the last vehicle, the test should be made by opening the cock in the brake pipe of the last vehicle connected.

A guard, if he should have occasion to apply the Westinghouse brake from his van during the running of the train, must open the tap and allow the air to escape until the train is brought to a standstill, but he should only use the Westinghouse brake in cases of emergency.

In running into stations with block ends, and on approaching junctions where the train may have to stop, the guards must be especially prepared to assist the driver by the ordinary application of their hand brakes to bring the train to rest.

The guards must, in all cases, screw the hand brakes clear off before starting.

The guard must enter, on his report, all cases of irregularity in the working of the brakes.

Examiners (*Locomotive Department*).

Examiners must see:—(1) That the brake connexions are perfect and properly adjusted for the wear of the blocks and wheels by being uniformly taken up. The pistons of double piston cylinders should each travel not less than two, nor more than four inches. Those of single piston cylinders should not travel less than four, nor more than eight inches. (2) That the brake cylinders are perfect and lubricated at least every three months with mineral oil. (3) That the hose couplings are united, and the cocks in the pipes, except the one at the rear of the last vehicle connected with the Westinghouse brake, are open, that is, the handles must stand across or away from the pipe, except the one at the rear of the last vehicle connected with the Westinghouse brake, which must lie along the pipe in the shut-off or closed position. (4) That the joints are all air-tight.

General.—Before detaching the engine or any carriages the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or tap when the engine is away, may cause serious inconvenience in shunting. The pipes and joints must be kept tight, and when leaks are discovered they should be corrected, if serious, before the vehicle is again used.

The brake pipe has a tap near its junction with the hose coupling at each end of every vehicle, and these taps must always stand open between each vehicle when the hose couplings are united, and always closed when the hose couplings are not united. After connecting two hose couplings these taps must always be opened, but before separating two hose couplings these taps must always be closed.

The taps are open when the handles stand away from, or at right angles with, the brake pipe, and closed when the handles lie along, or in the same direction as, the brake pipe.

If the brakes are applied by the separation of the train, or the breaking of a pipe, they can be released by opening the small release valves in the brake cylinder or pipes leading thereto. These taps after the release of the brakes must be closed.

If the brakes are applied after the engine has been disconnected, they can be released as above or by again connecting to the engine.

The brake of any vehicle can be put out of operation without affecting the others, by closing the tap under that vehicle, between the brake pipe and triple valve.

No person must tamper with the tap in the brake van, as by so doing the brake is instantly applied, and cannot be taken off again except by opening the cock under each vehicle, or by attaching the engine to the train.

Station masters, inspectors, guards, shunters, and all members of the staff concerned in the working of the trains, must make themselves thoroughly acquainted with the whole of these instructions.

ARTHUR L. STRIDE,
Engineer and Manager.

MERSEY RAILWAY.

VACUUM CONTINUOUS AUTOMATIC BRAKE.

All engines and carriages owned by the Mersey Railway are fitted with this brake apparatus.

This can be applied throughout *the train* by either the driver from the engine or the guard from the brake-van. The engines of the new "Victoria" class are fitted with the vacuum brake, but in engines of the old "Major" class, the apparatus, although *worked* from the engine, does not put on the brakes on the *engine or tender*, a steam brake being supplied for this purpose, which applies itself automatically whenever the vacuum brake is used, but can also be used independently.

The continuous brake must be used by *the drivers for all stoppages, but the guards must not make use of it* except in cases of absolute necessity, and whenever they do so, a full and special report must be made of all the circumstances, the fact being also noted on their daily report.

The amount of brake power at command depends upon the amount of vacuum obtained, and before starting, the driver must see that the gauge indicates at least 18 inches of vacuum. This is obtained by admitting steam to the small ejector by means of the steam cock provided for the purpose. To apply the brake, move the lever on the brake valve to "ON." In ordinary running this lever must stand at "RUNNING POSITION." To release the brake the lever should be in the position "OFF." When the vacuum is suddenly destroyed in the main pipe the brake is full "ON."

When the guard has occasion (*in emergency only*) to apply the brake he must press down the lever on the valve placed in his van. This admits air throughout the train pipe and the brake is at once applied. The valve in the van opens automatically when the brake is applied violently by the driver and ensures rapid action, but it must, however, not be so applied except in cases of emergency. The guard must see by his gauge that a vacuum of at least 18 inches is maintained; if it falls below this amount he must at once report the fact to the driver.

In the event of a break loose, the continuous brake will be automatically applied, but the guard in the rear van must not rely solely on this, but must put his hand brake hard on and firmly secure it before going back to protect his train.

It is the duty of the fireman, when the engine is attached to the train, to connect the hose coupling on the engine or tank to that on the train; and it is his duty when the engine is detached to place the hose couplings, after disconnecting them, on the respective plugs provided for the purpose. The driver is responsible for this duty being properly attended to by the fireman.

It is the duty of the shunter or porter to connect the hose couplings between the carriages, and to place the hose coupling in rear of the last vehicle on the plug provided for the purpose. The guard is held responsible for this being done. When trains or carriages are placed in the carriage sheds or sidings at the termination of the day's work, the hose coupling at the end of the train or carriage must be taken off the plug, and the driver, before detaching his engine, must put full steam on the large ejector and blow through for at least one minute while the coupling is off the plug. The coupling can be replaced and the engine detached. The carriage foreman at the Central station and the station inspector at the other stations will be responsible for this being carried out.

When empty trains are left in the temporary sidings in the tunnel east of James Street, or at other places where the gradient is severe, the hand-brakes must be placed hard on before the engines are detached. The guard will be held responsible for this being done.

To release the brakes, after the engine has been detached, the hose coupling at one end of the train must be taken off the plug, the wire fixed under the body of each carriage must be pulled as indicated by the arrows. This admits air to the top side of the cylinder and the brakes fall off by gravity. It is the duty of enginemen in every instance, *before taking their engines out of the shed*, to test the apparatus on both engine and tender, and also when engine is fitted with STEAM BRAKES, whether in addition to the vacuum brake or otherwise, they must be tested with full steam pressure.

Enginemen must always test the continuous brakes, to satisfy themselves that they are in proper working order, after their engines are attached to the trains and immediately before starting.

Drivers must have their trains under such control when approaching terminal stations as will enable them if necessary to stop at the required place, by using only the engine steam brake and guard's hand brake.

METROPOLITAN RAILWAY.

INSTRUCTIONS FOR WORKING THE VACUUM BRAKE.

I. All trains on which this brake is fitted will be controlled by the driver only, unless the guards are specially called upon to apply their brakes by the usual whistle signal.

II. In using this brake, the force to be applied must not exceed 15 inches on the vacuum gauge, and drivers must shut off steam and apply the brake, so that the stoppage can be properly effected with this power.

III. The excess of power beyond 15 inches of vacuum is not to be used except in cases of emergency, such as an unusual stoppage, or accident to train or engine.

IV. Before starting with the train, the driver is to test the connecting pipes to see if they are properly coupled up, by turning steam into the ejector. If all is right, the gauge will show it by the pointer remaining where carried by the vacuum.

V. The use of this brake is intended to give greater certainty in making stoppages, and to prevent the skidding of wheels.—Any driver, therefore, who recklessly runs into a station, and skids the wheels to stop, will be severely punished.

VI. In approaching all terminal stations, viz.:—New Cross, Aldgate, Moorgate (North Dock), Baker Street East, Hammersmith and Richmond, the train must be completely under control before the engine reaches the platform, so that a careful stop may be made by the hand brakes of the engine only; and the guards must be prepared to assist with hand brakes if required. Should it be necessary for the drivers to use the vacuum brake, a special report must be made detailing the circumstances.

VII. Should an engine fitted with this brake have any defect in the ejector or pipes, the driver must, before starting with the train, give the guard notice that the hand brakes will require to be used, so as to avoid the necessity for calling on him to apply the brake on approaching each station.

VIII. The guards, before starting with a train, must see that the engine is properly fitted with the vacuum brake, as should it not be so the hand brakes must be used in the usual way.

JOHN BELL,
General Manager.

March, 1892.

INSTRUCTIONS FOR WORKING THE AUTOMATIC VACUUM BRAKE.

All trains on which this brake is fitted will be controlled by the driver only, except in cases of emergency, such as unusual stoppage or accident to train or engine.

Before starting, the driver must see that the gauge indicates at least 18 inches of vacuum, which must be maintained during the journey. The vacuum is created and retained by admitting steam to the small ejector. To apply the brake move the lever on the combination ejector to "ON." In ordinary running this lever must stand at "RUNNING POSITION." To release the brake move the lever to position "OFF." Before starting with the train the driver is to test the connecting pipes to see if they are properly coupled up, by turning steam into the ejector.

In cases of emergency, or when called by whistle to do so by the driver, the guard will apply the brake by pressing down the lever of valve in van; he will see that all pipes between carriages are properly coupled together, and that the coupling on the rear end coach is placed upon the dummy. He must also see by the gauge in his van that 18 inches of vacuum is maintained, and report, if otherwise, to the driver. The working of the automatic brake by the engineman will not relieve the guards from any responsibility. They must keep a good look out, and be prepared to apply the hand brakes should necessity arise.

In approaching all terminal stations, the train must be completely under control before the engine reaches the platform, so that a careful stop may be made by the hand brake of the engine only, but the guards must be prepared to assist with hand brakes in van if required. Should it be necessary for the driver to use the vacuum brake, a special report must be made detailing the circumstances. When the brake is to be used for ordinary stoppage of trains, it must be done by the driver opening the air valve on the engine gradually, not suddenly or with full force except in cases of emergency.

Shunters, porters, and others when connecting or disconnecting automatic brake pipes, must be careful not to have in their hands waste or anything that may be drawn into the pipes by the action of the vacuum. To release the brake for shunting purposes (the engine having left the train) they must first see that the hose coupling at one end of the train is off the dummy, then pull the chain which is fixed under the body of each carriage. They must also be careful in passing between vehicles not to step upon the brake pipes or interfere with the connections in any way. Whenever the hose pipes between the vehicles are disconnected the couplings must be placed upon the dummies.

JOHN BELL,
General Manager.

General Manager's Office,
32, Westbourne Terrace.
31st August 1892.

METROPOLITAN DISTRICT RAILWAY.

INSTRUCTIONS FOR WORKING TRAINS DURING THE CONVERSION FROM THE WESTINGHOUSE NON-AUTOMATIC TO THE WESTINGHOUSE AUTOMATIC BRAKE.

General Explanation.

Trains fitted with the automatic brake (hereafter called "automatic trains") can be distinguished by a white cross on the red painted end of the brake compartment, also by having a stop-cock between the iron brake pipe and the india-rubber hose pipe at each end of train, and a stop-cock in a wooden case and an air-pressure gauge in each guard's compartment.

The stop-cocks at the ends of trains next the engine and on the engines next the train must always be opened *after connecting the hose couplings and always closed before separating them.*

For all ordinary stops the brakes of the whole train will be applied and released by the driver from the engine.

If the brakes are applied by the accidental separation of the train or the breaking of a pipe, or from any leakage, they can be released by opening the release valves in the brake cylinder pipes; the chains by which these are released will be found under and attached to the top footboard of each carriage, where the footboard is notched to indicate their position.

INSTRUCTIONS TO DRIVERS OF ENGINES WITH AUTOMATIC BRAKES.

The air in the main reservoir should be maintained at not less than 60 to 65 lbs. pressure.

When the engine is attached to a train the driver must see that the cocks at the ends of the brake pipes between the engine and train *are opened after the hose couplings are connected, the cock at the other end of the engine being kept shut.*

To work Automatic Trains.

After the engine is attached to the train, all the train reservoirs are charged by turning the handle of the driver's brake valve to the first position, with the handle *as far to the left* as it will go, for *about* 10 *seconds;* it is then brought to its second position, which is a very short distance more towards the driver, and it remains there while the train is running.

For ordinary stops the brakes should be applied lightly by turning the handle to the *right* and gently closing it again, after a reduction of the pressure in the brake pipe of *not less than 5 lbs. or more than* 8 *lbs.* has been made. If the pressure runs up on the gauge when the handle is brought back, it shows that the valve has been shut too quickly.

In ordinary working, the brakes are fully applied when the pressure in the brake pipe is reduced 25 lbs.; any further reduction is waste of air.

The brakes must always be eased off before coming to a dead stop, to avoid jerking the train.

In releasing the brakes the handle must be moved quite against the stop on the left side, *kept there about* 10 *seconds,* and then moved back to the second or running position, and left there until the brakes have again to be applied.

When approaching a terminus or a station where the train has to change engines, the air pressure in the engine main reservoir and in the whole train should be somewhat reduced, say 10 to 15 lbs. The driver of the engine that is to proceed with the train must see that he has the *full pressure* in his main reservoir before the engine is attached to the train.

Neglect of these precautions may cause delay, by the brakes not coming off freely before the train starts with the second engine.

Drivers upon feeling that the brakes have been applied by the guard or automatically *must at once turn the handle to the right*, thus preventing escape of air from the main reservoir.

To work Non-automatic Trains.

When running, the handle of the driver's brake valve must stand to the *right*, and must be gently moved towards the *left* to apply the brakes, and turned back to the *right* to release them, great care being taken not to apply the brakes too suddenly or to jerk the trains when stopping.

INSTRUCTIONS TO DRIVERS OF ENGINES WITH NON-AUTOMATIC BRAKES.

The air in the main reservoir should be maintained at not less than 60 to 65 lbs. pressure.

To work Automatic Trains.

When the engine is attached to an automatic train the driver must see that the stop-cock on the brake pipe at the end of the train next the engine *is opened after the hose couplings are connected.*

The train reservoirs are charged with air by turning the handle of the three-way cock, at the back of the fire-box shell, towards the *right*, and it must remain in that position while the train is running.

For ordinary stops the brakes should be applied lightly by turning the handle to the *left* and closing it again gently to the right; it is not necessary to let all the air out of the brake pipe, except in cases of great emergency when a sudden stop has to be made.

The brakes must always be eased off before coming to a dead stop, to avoid jerking the train.

In releasing the brakes, the handle must be moved to the *right*, when the train reservoirs will again be charged, and the brakes will be in the position for running.

When approaching a terminus or a station where the train is to change engines, the air pressure in the engine main reservoir and in the whole train should be somewhat reduced, say 10 to 15 lbs.; the driver of the engine that is to proceed with the train must see that he has the *full pressure* in his main reservoir before the engine is attached to the train.

Neglect of these precautions may cause delay by the brakes not coming off freely before the train starts with the second engine.

Drivers upon feeling that the brakes have been applied by the guard or automatically *must at once turn the handle to the left*, thus preventing escape of air from the main reservoir.

To work Non-automatic Trains.

When running, the handle of the three-way cock must stand to the *left*, and must be gently moved towards the *right* to apply the brakes, and turned tack to the *left* to release them, great care being baken not to apply the brakes too suddenly or to jerk the train when stopping.

GEORGE ESTALL,
Locomotive Superintendent.

Lillie Bridge Works,
22nd August 1890.

SPECIAL INSTRUCTIONS TO GUARDS OF AUTOMATIC BRAKE TRAINS.

Before leaving a terminus or when another engine is attached to the train, the head guard must ascertain that the hose couplings are connected and that the cocks in the brake pipe between the engine and train are open, by applying the brakes from his own van (by opening the air-cock and closing it again), and seeing that they are released by the driver from the engine.

Previous to starting a train from a terminus the head guard must, in addition, see that the air-cock at the tail end of the train is shut, by the handle being turned up to a vertical position or in a line with the iron pipe.

For all ordinary stops the brakes on the whole of the train will be applied and released by the driver from the engine, but in order to enable the guard at either end of the train to apply the brakes in case of emergency, each guard's brake-compartment will be provided with a stop-cock (enclosed in a wooden case), and either guard can, by opening this stop-cock and allowing the air to escape from the brake pipe, apply the brakes and stop the train. This stop-cock must be closed again before the brakes can be released.

Guards must in all cases screw the hand-brakes clear off before starting, but must observe the air-gauge in their compartment, and be prepared to use the hand-brake if the air-gauge shows that there is no pressure of air in the brake-pipe while running, thus indicating that the air-brake is not in working order.

Chains attached to the release valves in the brake cylinder pipes have been provided for the purpose of releasing the brakes by hand, should they be put on by the accidental separation of the train, or the breakage of a pipe or leakage of air. These chains are attached to the underneath side of the top foot-board of each carriage, and the footboard is notched to indicate their position.

ALFRED POWELL,
Parliament Mansions, S.W., Manager.
22nd August 1890.

MIDLAND RAILWAY.

VACUUM AUTOMATIC BRAKE.

This brake can be applied throughout the train by the driver from his engine, or by the guard from his van.

Instructions to drivers. — Before starting from any station, see that your gauge indicates 20 inches of vacuum, and that not less than this amount is maintained during the journey, and while standing at stations.

To apply the brake, open the air valve on the engine.

To release the brake, close the air valve and restore the vacuum to the same amount as existed before the application.

When the engine is attached to the train and the brake pipes are connected, put on the small ejector, and keep it on while at the stations, and during the journey, in order that a constant vacuum may be maintained.

The brake must be applied steadily, which can always be done by opening the air valve gradually; but in a case of emergency the valve must be pulled open suddenly. The large ejector may be used to raise a vacuum rapidly, or when the brake requires to be taken off quickly; but in either case it must be closed gradually.

When stopping the trains under ordinary circumstances, drivers must ease the brake off before finally coming to a stand.

Instructions to guards. — After the engine is attached to the train or when an engine is changed or a pilot engine or any vehicle is attached or detached, the guard in charge must ascertain whether the brake is coupled up and in working order throughout the train, and between the train and the engine. This must be done by lifting the brake valve a *little* in the rear van, when, if there is an

inrush of air through the valve, the brake will be all right; but if no inrush takes place, the guard must inform the driver that there is no vacuum in his van.

To apply the brake, lift up the valve, which will admit air throughout the brake pipe, but this is only to be done in a case of emergency. The valve opens automatically when the brake is applied with full force by the driver, and ensures rapid action. See that all pipes between the vehicles are properly coupled together, and that the coupling is on the stop plug at the rear of the train. See by your gauge that a vacuum of 20 inches is maintained, and report, if otherwise, to the driver.

The needle on the left-hand side of the gauge in the guard's van indicates the amount of vacuum in the brake pipe.

The needle on the right-hand side of this gauge indicates the amount of vacuum in the reservoir.

When the brake is applied fully, the needle on the left-hand side will go to "O," and the needle on the right-hand side will only gradually go down as the vacuum in the reservoir leaks away.

In the event of a train becoming divided when going up a rising gradient, the guard must, in addition to turning the tap to the "remain-on" position, also apply his hand brake tightly, and take such other measures as may be necessary to prevent the vehicles from moving.

General Instructions.—Whenever the pipes between the vehicles are disconnected, the couplings must be placed upon the stop plugs at the end of the vehicles.

To couple the hose pipes the porter must take one in each hand and lift them sufficiently high to hook the bottom horns of the couplings together first, and then by lowering them, place the top horns of the couplings in the slots.

To uncouple the hose-pipes the porter must simply lift them straight up, when the horns at the top will come out of the slots, and the couplings will then separate. Porters, when coupling or uncoupling the pipes, must have their hands quite free from cotton waste or anything else that would be likely to be drawn into the pipes by the suction of the vacuum.

In winter, any frozen snow or ice with which the hose pipe, couplings, or plugs, may have become coated, must be cleaned off before attempting to couple them together, so that the india-rubber washers may properly meet each other, and be air-tight.

To release the brake for shunting purposes on vehicles fitted with ball valves (the engine having left the train) first see that the hose coupling at one end of the train is off the stop plug and then pull the release cord or wire which is fixed under the frame of each vehicle, the position of which is indicated by a small white star painted on the sole bars. This admits air to the top side of the cylinder, and the brake comes off by gravity.

When the release wire has to be pulled for the purpose of taking the brake off, it must always be held by hand until the brake comes off, and must never be fastened over.

Whenever the vacuum automatic brake pipes are not connected with each other, they must be placed upon the stop plugs at the ends of the vehicles.

When vehicles fitted with continuous brakes are placed in sidings, the continuous brakes must, in all cases, be released, and when it is necessary that a brake should be applied for the purpose of keeping the vehicles from moving, the ordinary hand brakes must be used.

Guards and others concerned must take care that articles are not placed in guards' vans in such a position as to be liable to come in contact with the brake lever.

Westinghouse Automatic and Continuous Air Brake.

Description and Instructions for Working.

Description.

The air used to apply the brake is compressed by a small engine and pump placed on the locomotive. The driver or any of the guards can apply the brake, *and it applies itself in the case of a break-away, or the failure of any of its vital parts.*

The engine, tender, and each of the vehicles of the train are fitted with the following parts:—(1) a triple valve, (2) a supplementary air reservoir, and (3) a cylinder with piston rods; the latter in connection with (4) the brake lever and blocks. Upon the engine a main reservoir also is fitted.

When a train is made up and ready to start, and also when it is running, compressed air stands at equal pressure in the pipe from end to end of the train, and in the triple valve and supplementary reservoir on each vehicle, but in the main reservoir the pressure is about 10 lbs. in excess of that in the train.

The brake is *applied* by a *decrease* of pressure in the main pipe. This causes the triple valves to move down, and to allow the air stored in the supplementary reservoirs to pass instantly into the cylinders, force out the pistons and rods, and cause the blocks to press against the tyres of the wheels.

The brake is *released* by an *increase* of pressure in the main pipe, by allowing air to pass from the main reservoir along the train. This moves the triple valves up, recharges the supplementary reservoirs, and at the same time allows the air which had forced out the pistons to escape into the atmosphere.

Instructions.

Drivers must see (1) that the top, or steam cylinder, is kept well lubricated, (2) that the air cylinder is sparingly lubricated with a small quantity of refined petroleum—*tallow or oil must not be used in the air cylinder*—(3) that the pump is *constantly run*, but never faster than is necessary to maintain the required air-pressure, and (4) *that air from* 50 *to* 60 *lbs. pressure for stopping trains and from* 70 *to* 80 *lbs. pressure for express trains*, is carried.

For ordinary stops the brake must be applied lightly, by opening the valve, and closing it gently when the pressure has been reduced from 4 to 8 lbs. on the gauge.

The brakes are fully applied when the pressure shown on the gauge is reduced 25 lbs. Any further reduction would be waste of air.

In releasing the brakes the handle must be moved quite against the stop and kept there for about ten seconds, and then moved back against the intermediate stop, which is the feed position, *where it must remain whilst the train is running.*

Drivers, upon feeling that the brakes have been applied by the guard, or automatically, must at once aid in stopping the train by turning the handle of the brake valve towards the right, thus preventing the escape of air from the main reservoir.

The blocks of the driving wheel brake must be so adjusted by turning the screw that the pistons move up from 3 to 4 inches.

Drivers must be careful to drain the water out of the main reservoir once a week, especially in winter time.

If vehicles having different air pressures be coupled together the brakes will apply themselves on those which have the highest pressure. To ensure the certain release of all the brakes on the train, and also that trains may be charged quickly, the driver must carry the maximum pressure in the main reservoir before connecting to a train, and then put the handle of his brake valve in the release position until the train is charged with air. If the brakes on the engine and tender thus apply themselves by being coupled to a train not charged they must be at once taken off by opening the release valves from the brake cylinders.

Guards.—After making up a train, after attaching or detaching any vehicle, or after another engine has been attached, the rear guard must ascertain whether the couplings are connected, and the cocks in the brake pipe are all open throughout the train, by applying the brakes from his van, and seeing that *they are released from the engine*. If the brake is not in use on the whole train, or if the van is not the last vehicle, the test must be made by opening the cock in the brake pipe of the last vehicle connected.

Guards, when they have occasion to apply the brake from their van, must open the tap and allow the air to escape until the train is brought to a standstill, but they must only use the brake in case of emergency. The tap in the van must again be closed when the train has come to a stand.

The pressure gauge in the van must be observed.

Guards must, in all cases, screw the *hand-brakes clear off* before starting.

General.—Before detaching the engine or any vehicle, the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or tap when the engine is away, may cause serious inconvenience in shunting. The pipes and joints must be kept tight, and when leaks are discovered they must be corrected, if serious, before the vehicle is again used.

The brake pipe has a tap at each end of every vehicle, all of which must be open when the hose couplings are united, except the one in the rear of the train. *These taps must always be opened after connecting the hose couplings, and always closed before separating them.*

If the brakes are applied by the separation of the train, or the breaking of a pipe, they can be released by opening the release valve in the pipe leading to the brake cylinder. This is done by pulling the cord under the frame of each vehicle, the position of which is indicated by a small white triangle painted on the sole bars. If the brakes are applied after the engine has been disconnected, they can be released as above, or by again connecting to the engine.

The brake of any vehicle can be put out of operation without affecting the others, by closing the tap under that vehicle between the brake pipe and triple valve.

Care must be taken (1) that the brake connections are perfect, and properly adjusted for the wear of the blocks and wheels, by being *uniformly* taken up. The pistons of the double piston cylinders should each travel not less than two nor more than four inches; and those of the single piston cylinders should travel not less than four nor more than eight inches; (2) that the brake cylinders are perfect, and lubricated at least every three months with *mineral oil;* (3) that the hose couplings are united and the cocks in the pipes are open, that is, the handles must stand across or away from the pipe, except the one at the end of the train, which must lie along the pipe in the shut-off position; and (4) that the joints are all air-tight.

When there are upon a train any vehicles fitted with the Westinghouse brake, and that brake is not in use upon such vehicles, the handle of the tap at each end of each vehicle must be placed across or away from the pipe in order that the brake may be applied and the air let out of the main pipe; the air must then be allowed to escape from the cylinder by means of the release tap under the vehicles. This is necessary to avoid the brake leaking on and delaying the trains.

To enable the staff to readily ascertain whether the vehicles supplied with the Westinghouse brake pipe are fitted with the brake apparatus, or with the connecting pipes only, the cock at each end of all vehicles having connecting pipes only has been painted red.

NORTH-EASTERN RAILWAY.

The Westinghouse Automatic Brake.

Description.

General Principle of its Action.

Compressed air is the power employed to work the brake. The air, compressed by an air pump on the engine into a main reservoir, flows through the driver's brake valve into the main brake pipe, which extends the whole length of the train, and fills under each carriage a small reservoir by means of the triple valve attached to it. Each triple valve is also connected to a brake cylinder. As soon as the pressure in the brake pipe is lowered the triple valve piston under each vehicle is moved down by the greater pressure above it, stored in the small reservoir, and this pressure passes instantly into the cylinder, forces out the piston and rod, and thus causes the blocks to press against the wheels.

The brakes are released by an increase of pressure in the main pipe, produced by allowing air to pass from the main reservoir along the train. This moves up the triple valves, recharges the small reservoirs, and at the same time allows the air which had passed into the cylinders and forced out the pistons, to escape into the atmosphere.

Instructions as to its Proper Working.

Drivers.—The top or steam cylinder of the donkey-pump must be kept well lubricated with the best olive oil, by means of the lubricator only.

The small oil cup on the air cylinder must be filled once a week (and then only when the cylinder is cool) with paraffin. No other lubricant must be used.

The steam valve in communication with the donkey-pump must first be opened slightly until a small pressure of air is obtained, and then kept fully open whilst the engine is on duty. A governor is attached to the pump for the purpose of checking it when the standard pressure of 60 lbs. is obtained in the main pipe.

N.B.—The steam valve to the pump must only be shut off when oil has to be put into the lubricator.

The main reservoir must be drained once a week, and in frosty weather more frequently. The drip cup must be drained at least once every two days.

Pistons in short cylinders must not travel less than 2, or more than 4½ inches, and those in long cylinders not less than 3½ or more than 7 inches.

The driver is responsible for the connections between the engine and the first vehicle being perfect, and the cocks on the main pipe open.

Before and when attaching to a train the driver must see that his brake handle is in the feed position, and that he has the maximum pressure of air (60 lbs.) allowed in his main pipe, and that the tap below the driver's valve is open.

After the engine has been attached to the train (and also whilst standing at stations) the driver must keep his handle in the feed position so that whatever reductions are made by attaching, or the guard testing the train, he may be able to release the brakes when he gets the signal to start.

The driver must not put his handle into release position until after he receives the signal to start, and should the engine and tender brakes be on, the driver must release them by the cocks provided for that purpose.

When two or three attachments are to be made, the driver must be careful to put only a low pressure of air into the first and second portions, and after the third or last portion has been attached he must keep his handle in neutral position until he gets the signal to start; he must then place his handle in the release position and leave it there until the gauge shows a gradual increase of pressure.

To apply the brake the driver must lightly turn his handle to the right ("brake on" position) allowing not less than 5, or more than 8 lbs. of air to escape,

and then gently close the valve again by placing the handle in neutral position. Should it be necessary for a driver to apply the brake immediately after releasing it, he must make a greater reduction from the main pipe than he did when first applying it. In fact he must allow the air to escape until he feels that the brakes are applied.

A reduction of 25 lbs. applies the brake with full force, but in cases of emergency the handle must be brought against the "brake full on" stop, and kept there until the train comes to rest.

If after a reduction has been made, the pressure runs up on the gauge, it shows the outflow of air has been too suddenly checked, and that probably some, if not all the brakes have come off again.

The driver's handle must not be put into release position before applying the brake, as it destroys the reserve pressure.

To avoid skidding the wheels, great care must be taken to apply the brake lightly for ordinary stops.

When stopping at stations the brake must be so applied that the train will be brought to rest without rebounding.

To release the brake the driver's handle must be put quickly over into release position, and kept there until the gauge shows a gradual increase of pressure, which indicates that the train is equally charged throughout; the handle must then be brought back into feed position.

The driver of a train running direct or backing into a platform with a buffer-stop at the end or to a platform where another train is standing, must do so cautiously, and at a proper distance from the place where the train has to come to a stand must test the continuous brake, and then run forward under the control of the hand brake only, not using the continuous brake except in case of emergency.

When approaching any principal station or junction where the train has to stop, and also when moving up to attach the engine to a train, the driver must not rely upon the continuous brake, but must so regulate the speed of his engine that the ordinary application of the hand brakes on the engine and tender will be sufficient to bring the train or engine to rest.

When working the brake with two engines coupled together, the driver of the leading engine must take charge of the brake, and work it as he would on an ordinary train, not considering the second engine except as a vehicle. Should the leading driver find any difficulty in getting the brake to go on, he should at once put his brake-handle into full on position and keep it there until the train comes to rest.

The driver of the second engine must shut the tap, which is fixed under the driver's valve, thus closing all communication between his main reservoir and train pipe, and this tap must be kept closed, and the brake handle kept in the neutral position until the first engine is uncoupled from the train, or it is necessary for him to apply the brake. Should, however, the second engine be fittted with the equalising driver's brake valve, the handle must be kept in full release instead of neutral position.

When the second engine has not a tap below the driver's valve, the driver must put his handle into neutral position and keep his pump working.

Should it be necessary for the driver of the second engine to apply the brake he must bring his handle into full on position and keep it there until the train comes to rest, but the tap below the valve must not be opened.

Should the leading engine be detached, the driver of the second engine must then take charge of, and work the brake in the usual way, but before he opens the tap, he must make himself sure that his main reservoir has been fully charged with the maximum pressure of air.

Should the driver discover any defect in the working of the brake which would render it ineffective, he must at once give the guard notice, and arrange with him as to the use of the hand-brake in the vans, if necessary.

The driver on finding that the brake has been applied by the guard, or automatically, must at once aid in stopping the train by putting the brake handle into neutral position, thus preventing any escape of air from the main reservoir.

Drivers must immediately report any failure or irregularity in the working of any part of the brake apparatus.

Drivers must be careful to prevent oil or grease coming in contact with the hose pipes and other rubber connections and, when coupling the hose, must not bend one pipe more than the other.

Drivers will be held responsible for any unreported defect in the brake apparatus on any engine of which they may have had charge.

The Westinghouse brake on goods engines must only be used when working passenger trains.

Guards.—Before starting a train from a terminus, or from any place where an attachment or detachment has been made, guards must see that all the brake couplings are properly connected and the taps on the swan necks open; to ascertain that this is the case they must make a reduction of not less than 5 or more than 8 lbs. of air, by opening the tap in the van, but should the van not be the last vehicle the reduction must be made from the rear tap of the train.

This test must be made as soon as possible after the train has been made up.

When a guard has occasion to apply the brake from his van, he must open the tap provided for that purpose and allow the air to escape until the train is brought to rest. Any sudden opening or closing of the tap is likely to cause damage to the train. The guard must only apply the continuous brake in cases of emergency.

Guards must see that the taps in each van, and at the rear of the last vehicle of their train are shut before the engine is attached, so as to avoid any waste of air-pressure.

Guards must in all cases screw the hand-brake clear off and chain it before starting.

Each guard of the train must be on the look-out, and must make use of his hand-brake to assist the driver in stopping, and must also apply the continuous brake in case of emergency.

Guards must enter on their reports all cases of irregularity in the working of the brake, giving at the same time the number and description of the vehicle at fault, the number of the engine working the train, and when possible the nature of the failure.

The head guard of a train fitted with the Westinghouse brake, must, before starting, and at places where engines are changed, inform the engine driver what number of vehicles there are on the train, and must keep him advised when from any cause the brake cannot be worked upon the whole of the vehicles composing the train.

Carriage Brake Inspectors.—The carriage brake inspectors must see that the brake connections are perfect, the hose couplings properly united, and the cocks on the pipes open, except that at the rear of the last vehicle.

The brake blocks must be uniformly adjusted, so that the pistons of the brake cylinders do not travel too far, and all joints must be kept tight.

The brake cylinders, triple valves, and other parts of the brake apparatus must be carefully inspected, and attended to when necessary.

The carriage brake inspectors should see that the brake is in good working order on all vehicles of a train, by having the brake applied and released from the engine, and must inform the driver of the number of vehicles in the train on which the brake can be worked, and also the number of "piped" vehicles.

Brake Fitters.—When any part of the brake apparatus on an engine is reported by the driver as being out of order, the shed brake fitter must have it attended to, and the brake tested before the engine goes out again.

The brake apparatus on engines and tenders in regular working must be thoroughly examined by the shed brake fitters at least once a month, and on spare engines twice a month.

General.—Firemen, guards, shunters, and others who may detach an engine or vehicles from a train must first observe that the brake has been released from the engine, otherwise they will have to release the brake by hand, by pulling the wire attached to the release valve under each vehicle.

The tap at each end of every vehicle in a train, except that at the rear end of the last vehicle, must be opened directly after the hose couplings have been united; and before the pipes between any two vehicles are disconnected, the tap on each side must be closed.

Should it be necessary to put the brake out of operation on a vehicle, this must be done by closing the tap between the main pipe and triple valve under the vehicle. The 1-in. tap at the end of the main pipe must not be closed (unless there is a defect in the main pipe or couplings) as communication between the engine and those vehicles in the rear of the tap thus closed would thereby be stopped.

No person must be allowed to tamper with any of the taps in the train.

Hose couplings must not be pulled apart, but must be uncoupled by hand in the proper way.

H. Tennant,
General Manager.

York, July 1890.

Vacuum Automatic Brake.

General Description.

This brake stops the train by the application of brake blocks to the tyres, in the same way as the ordinary hand brake. The levers, however, which apply the blocks, are moved by a piston, working in a cylinder, this piston deriving its power from the pressure of the atmosphere.

The brake is continuous, each vehicle carrying its own brake cylinder connected to a pipe, running from end to end of the train, and it is through this pipe that the action of the brake cylinders is controlled.

An ejector placed upon the engine exhausts the air out of the continuous pipe and each cylinder. The brake is applied by the admission of air into the train pipe, and released by the withdrawal of the same through the ejector.

The brake can be applied by the guard, and is self-acting in the case of an accidental parting of the train, or any damage happening to the brake itself.

Instructions as to its proper Working.

Drivers.—The ejector handle must first be placed in the "running" position, as marked on the disc; the steam valve attached to the boiler must then be opened and kept open as long as the brake is in use.

The small ejector steam cock must next be opened, gently at first, and then sufficiently to obtain at least 18 inches of vacuum. When the engine is attached to a train, this cock requires to be regulated, as to open it too much or too little will prevent the ejector making the required amount of vacuum.

The steam valve must be closed before lubricating the steam disc, which must only be done by unscrewing the small oil screw on the top of the ejector.

When the engine is working by itself the driver must see that each coupling is placed on the dummy plug near it, and when attaching to a train, that the pipes between the engine and first vehicle are properly coupled.

Before attaching or detaching vehicles, drivers must in all cases destroy the vacuum, by putting the brake full on, as otherwise the couplings cannot be separated or taken off the dummy plugs.

Drivers must move the handle gently in the direction marked "on" until from 5 in. to 10 in. of vacuum is destroyed, as shown by the gauge: this will apply the brakes with gentle force to the wheels. The pressure of the blocks on the wheels can be increased by letting more air into the main pipe, or decreased by bring the handle into such a position as to cause the small ejector to increase the vacuum.

Should the engine be fitted with the apparatus for working the brake on the train only, the Westinghouse brake must be applied on the engine before the vacuum is applied on the train.

In cases of emergency the handle must be put right over into "on" position and kept there until the train comes to rest.

To avoid skidding the wheels, great care must be taken to apply the brake lightly for ordinary stops.

To release the brake the handle must be put into "running" position, but should this not be rapid enough the handle must be pushed in the direction marked "off," and so admit steam to the large ejector, which creates vacuum more quickly.

When stopping at stations, the brake must be so applied that the train will be brought to rest without rebounding.

The driver of a train running direct or backing into a platform with a buffer-stop at the end or to a platform where another train is standing must do so cautiously, and at a proper distance from the place where the train has to come to a stand must test the continuous brake and then run forward under the control of the hand-brake only, not using the continuous brake except in case of emergency.

When approaching any principal station or junction where the train has to stop, and also when moving up to attach the engine to a train, the driver must not rely upon the continuous brake, but must so regulate the speed of his engine that the ordinary application of the hand brakes on the engine and tender will be sufficient to bring the train or engine to rest.

When working the brake with two engines coupled together the driver of the leading engine must take charge of the brake, and work it as he would on an ordinary train, not considering the second engine except as a vehicle.

Should the leading driver find any difficulty in getting the brake to go on, he should at once put his brake handle into "on" position and keep it there until the train comes to rest, according to the latter clause of Rule 5.

The driver of the second engine must keep the steam shut off from his ejector, and place the handle in "running" position, where it must remain so long as the brake is worked from the leading engine.

Should it be necessary for the driver of the second engine to apply the brake, he must put the handle right over into "on" position, and keep it there until the train comes to rest.

Should the leading engine be detached, the driver of the second engine must take charge of the brake and work it in the usual way.

Should the driver discover any defect in the working of the brake, which will render it ineffective, he must at once give the guard notice and arrange with him as to the use of the hand brake in the vans, if necessary.

The driver must see that the engine brake is kept properly adjusted, and must immediately report any failure or irregularity in the working of any part of the brake apparatus.

Drivers must be careful to prevent oil or grease coming in contact with the hose pipes, and other rubber connexions, and, when coupling the hose, must not bend one pipe more than the other.

Drivers will be held responsible for any unreported defect in the brake apparatus on any engine of which they may have had charge.

Guards.—Before starting from a terminus, or from any place where an attachment or detachment has been made, the guard must see that all the brake couplings are properly connected, and that the coupling at the rear of the last vehicle has been placed on the dummy plug provided for the purpose; he must also look at the gauge in the rear van, and see that it registers not less than 18 inches of vacuum.

When the guard has occasion to apply the brake from his van he must press down the handle of the valve and keep it open until the train comes to rest, but this must be done carefully, as a sudden opening of the valve may cause damage (the valve opens automatically when the brake is applied suddenly by the driver, and insures rapid action). The guard must only apply the continuous brake in cases of emergency.

Guards must in all cases screw the hand brake clear off and chain it before starting.

Each guard of the train must be on the look-out and must make use of his hand-brake to assist the driver in stopping and must also apply the continuous brake in case of emergency.

Guards must enter on their reports all cases of irregularity in the working of the brake, giving at the same time the number and description of the vehicle at fault, the number of the engine working the train, and when possible, the nature of the failure.

The head guard of a train fitted with the vacuum automatic brake must before starting, and at places where engines are changed, inform the engine driver what number of vehicles there are on the train, and must keep him advised when from any cause the brake cannot be worked upon the whole of the vehicles composing the train.

Carriage Brake Inspectors.—Carriage brake inspectors must see that the brake connexions are perfect, that the hose couplings are properly united, and that the hose pipe at the rear of the last vehicle is placed on the dummy plug provided for that purpose.

The brake blocks must be uniformly adjusted, so that the pistons of the brake cylinders do not travel too far, and all joints must be kept tight.

The brake cylinders, ball valves, and other parts of the apparatus must be carefully inspected and attended to when necessary.

The carriage brake inspector should see that the brake is in good working order on all vehicles of a train, by having the brake applied and released from the engine, and must inform the driver of the number of vehicles in the train on which the brake can be worked, and also the number of "piped" vehicles.

Brake Fitters.—When any part of the brake apparatus on an engine is reported by the driver as being out of order, the shed brake fitter must have it attended to and the brake tested before the engine goes out again.

The brake apparatus on engines and tenders in regular working must be thoroughly examined by the shed brake fitters at least once a month, and on spare engines twice a month.

General.—Firemen, guards, shunters, and others, who may have to detach an engine or vehicles from a train must first see that the brake is applied with full force by the driver, otherwise they will find great difficulty in separating the hose couplings.

When a train or vehicles have been detached from an engine, the disconnected coupling must not be placed on the dummy plug until all the brakes have been released, which must be done by pulling the wire (at either side of the vehicle) attached to the release valve.

After the brakes have been properly released the coupling must be placed on the dummy, as this keeps the internal parts free from dirt, &c.

H. Tennant,
York, July 1890. *General Manager.*

NORTH LONDON RAILWAY.

Instructions for Working the Vacuum Automatic Brake.

The Brake can be applied throughout the Train by the Driver from the Engine, or by the Guards from either Van.

Engine drivers.—Before starting, the driver must see that the gauge indicates *at least* 20 *inches of vacuum*, and that not less than 18 inches is *maintained* during the journey and while standing at stations. The vacuum is created by admitting steam to the small ejector by means of the steam valve on combination ejector.

The small ejector must be kept at work *continuously* to maintain the vacuum.

To apply the brake, move the handle on combination ejector in the direction marked "*Brake on.*"

To release the brake, move the handle in the direction marked "*Brake off.*"

In ordinary running this handle must stand at "*Running position.*"

The small ejector steam-valve must not be closed without first destroying the vacuum, by applying the brake.

The ejector drip pipe, and the drip valve on train pipe, must be kept clear and free from dirt.

When in the shed, the hose and train pipe under the engine should be examined, and if water is found within, it is a sign that the back stop valves in the ejector require attention.

The driver's vacuum gauge has two pointers, the one on the left marked "*Train pipe,*" and the one on the right "*Vacuum chamber,*" both indicating the vacuum carried.

A drip trap is placed at the lowest part of the train pipe, so that any moisture may drain into it. The valve at the bottom of this trap must be examined and cleaned every shed day.

Should the small ejector alone fail to maintain 20 inches vacuum the driver must report it, and call the attention of the shed foreman, who must put it right before the engine again goes out.

The driver must see that all hose-pipes between the carriages and the engine are properly coupled together, and that the coupling on the rear van is placed on the plug when the engine is detached.

Guards.—When the guard has occasion to apply the brake, he must press down the handle on the valve placed in the van. This admits air throughout the train pipe, and is only to be employed in *cases of emergency.* The valve in the van opens automatically when the brake is applied *suddenly* by the driver, and ensures rapid action. *Before starting* his train the guard must see, by the gauge in his van, that a vacuum of 20 *inches is maintained,* or report otherwise to the driver.

He will also be responsible (with the engineman) for seeing that all the hose-pipes between the carriages and the engine are properly coupled together, and that the coupling on the rear van is placed on the plug when the engine is detached, and also before starting the train.

The front guard must see that the hose-pipes between the front brake van and the engine are attached before starting the train.

In the event of a train parting, the guard in the rear portion must at once apply his hand brake, and keep it tightly on until the train is again coupled to the engine.

If the guards find it necessary to call the driver's attention to the fact that the vacuum is below 18 inches, they must do so by slightly applying the brake. This will immediately call the driver's attention to the state of the vacuum gauge.

Empty Trains Standing in Sidings.

After a train has been shunted and the train pipe detached from the engine, the wire under each coach must be pulled by the guards to allow the brake to run off; the train pipe coupling must then be replaced on the block, in order to exclude damp from the train pipes and cylinders.

This order does *not* apply to empty vacuum trains stabled in Devons Road sidings, which are under the care of the Carriage Department men as heretofore.

General Instructions.

To release the brake for shunting purposes (the engine having left the train), first see that the hose-

coupling at one end of the train is off the plug, then pull the wire or cord fixed under the frame of each carriage. This admits air to the top side of the cylinder, and the brakes fall off.

To couple the pipes take one in each hand and lift them sufficiently high to hook the bottom horns of the couplings together first, and then by lowering them, place the top horns of the couplings in the slots.

To uncouple the pipes simply lift them straight up, when the horns at the top will come out of the slots and the couplings separate.

See that all the pipes, joints, and couplings are air-tight, that the levers are regularly adjusted (to allow for the wear of the blocks), and keep the blocks clear of the wheels.

See that the piston rods are kept clean. This should be done by wiping with a dry cloth. *No oil or grease must ever be used.*

Should the brake on any vehicle become disabled, or the piston stick, disconnect the piston rod of vacuum cylinder by removing the pin of brake shaft lever.

In the event of failure of the vacuum brake *on the engine*, the driver must at once whistle in the usual way for the brake, when it will be the duty of either guard (or both) to apply and hold down the vacuum brake handle in the van until the train is brought to a stand.

G. Bolland Newton,
General Manager.

Broad Street Station,
March 18th, 1892.

NORTH STAFFORDSHIRE RAILWAY.

Instructions for Working the Automatic Vacuum Brake.

The automatic vacuum brake is continuous throughout the train, each vehicle carrying its own brake power. Should a train fitted with this brake become divided when running, the disconnections of the hose-pipe will cause the brake to go on throughout each portion of the train.

The brake power available depends upon the amount of vacuum maintained by the driver, and not less than 18 inches vacuum must be maintained in the rear van of the train whilst in motion.

The brake is applied by the driver admitting air to the main train pipe, and this can also be accomplished in case of emergency by the guard pressing down the lever of the valve fixed on the iron pipe in the van.

When a sudden application of the brake is made by the driver the valve in each guard's van will open automatically, thereby admitting air to the main train pipe, thus ensuring a rapid application of the brake.

There is a gauge in each guard's van showing the amount of vacuum in the train pipe and in the reservoir underneath each carriage.

The brake is released by the driver re-creating the vacuum throughout the train, and when the engine is detached the brake can be released by pulling the wire which will be found underneath the carriage frame, and which must be held back until the brake is fully off. Care must be taken to see that the hose-pipe is taken off the plug at one end of the train.

Whenever the pipes between the vehicles are disconnected the couplings must be placed on the plug at each end of the vehicles.

The engine having been hooked on to the train, and the hose couplings between the tender and the train, also those between the coaches connected, and the one at the end of the train placed upon the plug, the driver will admit steam to the large or small ejector to exhaust the train pipe and cylinders to a vacuum of 22 inches, which must be maintained throughout the journey and whilst standing at stations, the small ejector only being used in case of the air pump failing to act.

To apply the brake, the driver admits air to the train pipe by opening the brake-valve.

To release the brake the driver will close his brake-valve and admit steam to the large or small ejector.

When the brake is applied, the pressure of the brakes on the wheels may be increased or diminished at pleasure without removing them, and also without reducing the full reserve power which is always at command for an emergency stop.

Station stops should not be made by violent application of the brake, but by a destruction of vacuum of from 5 to 10 inches, which should be re-created slowly as the train comes to a stand, in order to prevent jerking at the end of the stop.

To apply the brake quickly the driver must open the brake valve to the full extent.

The guard can apply the brake by pressing down the handle of the valve placed in the van, but this must only be done in extreme cases of emergency.

The guard must see whilst running or standing at stations that a vacuum of at least 18 inches is maintained in the van, or report otherwise to the driver.

It will be the duty of the guard to see that the couplings between the carriages are properly connected, and that the coupling of the last coach is placed on the plug.

To release the brake for shunting purposes (the engine having left the train) first see that the hose coupling at one end of the train is off the plug, then pull the wire underneath the frame of each carriage which must be held back until the brake is fully off.

In approaching terminal stations, stations at which other trains may be standing on the same line of rails, or crossing stations on single lines, at which the train has to stop, enginemen must test the continuous brake before passing the distant signal and the speed of the train must be reduced by it; and the engine must always enter such stations (or a dead end bay at any station) at such a speed as to enable them to stop the train at the proper place by the application of the ordinary hand brake only, and the automatic vacuum brake or steam brake must only be used in cases of emergency. Guards must watch the speed of the train and assist the engineman by the use of the hand brake when necessary. Unless the continuous brake is working properly when thus tried, the engine driver must whistle for the guard's hand brake, and inform the guard as early as possible that the continuous brake is out of order, and the hand brake must be relied upon for working the train. Special care must then be taken in approaching stations at which the train has to stop.

In the event of a train parting, the guard in the rear portion must at once apply his hand brake, and keep it tightly screwed on until the train is again coupled to the engine.

Each van is fitted with a hand brake, to be applied by the guards, in case the vacuum brake fails.

The vacuum brakes throughout the train being under control of the driver, the use of the "*hand brake*," in the vans is not required in making an ordinary stop. But guards must be prepared to apply the "*hand brake*" immediately on its being called for by the driver's whistle.

The driver will before starting from a terminal station, and also before leaving any station where a vehicle has been attached or detached to the train, test the vacuum brake, and the guard in charge of the rear van must see that the indicator in his van shows not less than 18 inches of vacuum, and signal the driver that it is so, by *shewing him a white flag by day* and a *white light by night*, which must be repeated by the driver giving a *hand signal* to the Guard by day, and showing him a *white light by night*.

SOMERSET AND DORSET JOINT RAILWAY.

Working of Vacuum Automatic Brake.

This brake can be applied throughout the train by the driver from his engine, or by the guard from his van.

Drivers' Instructions.—Before starting, see that your gauge indicates 20 inches of vacuum. This is done by admitting steam to the small ejector by means of a steam cock placed for that purpose. The small ejector must always be kept working, whether the engine is attached to a train or not. To apply the brake, move the lever on the combination ejector to "brake on." In ordinary running, this lever must stand at "running position." To release the brake, move the lever to position "brake off," and restore the vacuum to the same amount as before the application. When the vacuum is suddenly destroyed in the main pipe, the brake is full "on." When the engine is detached from the train, see that the couplings are placed upon the dummies fixed for that purpose, and when attached to a train, that the pipes between the engine and the next vehicle are properly coupled up.

The driver of a train provided with the continuous brake, must before starting the train, and at places where the engines are changed, ascertain from the head guard the number of vehicles there are on the train, and upon how many of them the brake can be applied and when any vehicles are attached or detached on the journey, the driver must ascertain whether the attaching or detaching of such vehicles will interfere with the working of the brake on the whole, or a portion of the train, and if the latter, to what extent.

Drivers before going off duty, must make out the return of the working of the continuous brake, on the form provided for that purpose, and specially report any defect or failure that may have arisen.

Guards' Instructions.—To apply the brake, press down the lever on the valve placed in the guard's van. This admits air throughout the train pipe, and is only to be employed in cases of emergency. This valve opens automatically when the brake is applied with full force by the driver, and ensures rapid action. See that all pipes between the vehicles are properly coupled together, and that the couplings on the end vehicles are placed upon the dummies. See by your gauge that a vacuum of 17 inches is maintained. If there be less, advise the driver.

The head guard of a train provided with the continuous brake must, before starting the train and at places where the engines are changed, inform the driver the number of vehicles there are on the train, and upon how many of them the brake can be applied, and when any vehicles are attached or detached on the journey, the driver must be advised, and told whether the attaching or detaching of such vehicles will interfere with the working of the brake on the whole, or a portion of the train, and if the latter, to what extent. When vehicles are supplied with connecting pipes only, they must be considered as vehicles without the brake. The head guard must also, before starting the train, and at places where the engines are changed, or any vehicles are attached or detached, see that the connections throughout the train are properly made.

Guards must report on their journals, in the columns provided for that purpose, particulars of the working of the continuous brake, and if there should be a failure, or irregularity of any description, or if it should be necessary for them to apply the brake from the van, they must, in addition to reporting the case in their journals, specially report it to the traffic superintendent.

General Instructions.—To release the brakes for shunting purposes (the engine having left the train), first see that the hose coupling at one end of the train is off the dummy, and then pull the cord which is fixed under the body of each carriage, as indicated by the arrows. This admits air to the top side of the cylinder, and the brake comes off by gravity.

Whenever the pipes between the vehicles are disconnected, the coupling must be placed upon the dummy at the end of the vehicle.

In working the continuous brake, great care must be exercised to apply it gradually and smoothly, so that the train may brought to a stand steadily, which can always be done by the driver opening the air valve gradually, but in case of emergency, the valve must be fully opened suddenly. In running down inclines, and approaching stations, the speed of the train must be so regulated that the driver may be able to stop the train whenever it may be required to be brought to a stand. Drivers must always enter a terminal station at such a speed as to enable them to stop the train at the proper place by the application of the ordinary hand-brake only, and guards must watch the speed of the trains and assist the drivers by the use of the hand-brake when necessary.

To couple the hosepipes, the porter must take one in each hand and lift them sufficiently high, to hook the bottom horns of the coupling together first, and then, by lowering them, place the top horns of the coupling in the slots.

To uncouple the hose-pipes, the porter must simply lift them straight up, when the horns at the top will come out of the slots, and the coupling will then separate.

When vehicles not fitted with the continuous brake, or having connecting pipes only, are attached to a train fitted with such brake, or to an engine having the brake on the engine wheels as well as the tender wheels, the guard in the rear van must, immediately upon the continuous or engine brake being applied by the driver, apply his hand-brake, and keep it tightly on, either until the train has come to a stand, or the driver has taken off his brake, and is again going forward, as the case may be. This arrangement is necessary to prevent the rebound of the carriages and possible breaking of the draw-bars, which may occur when a powerful brake is applied to the front portion of the train only.

When any vehicle or vehicles, provided with connecting pipes only, are attached behind the rear van of a train, the pipes must be connected in the same way as if such vehicle or vehicles were fitted with the brake.

No vehicle (except by special instructions) may be conveyed behind the rear van of any up or down passenger train between Evercreech New and Bath, and in no case must any vehicle be so conveyed unless it is fitted with the automatic vacuum brake.

Notice to Enginemen and Firemen.

Testing of Brake Apparatus on Engine and Tender.

It is the duty of enginemen in every instance, before taking their engine out of the shed, to test the brakes on both the engine and tender, as directed below, so as to satisfy themselves that they are in efficient working order.

Automatic Vacuum Brake.

Before leaving the shed or starting on a journey, the driver must test the action of both the large and small ejector, each in its turn separately, and satisfy himself that the joints of the pipes on the engine are tight, and the ejectors in working order. Should the fall of vacuum be very rapid, the joints must at once be examined to discover the leakage, and in order to draw out any water that may have accumulated in the engine or tender brake pipes, the engineman, both before leaving the shed and on his return at the end of his day's work, must take off the hosepipe coupling from the dummy and use the large ejector freely, which can be done by putting the handle over to

"On." All drain valves and pipes in connection with the brake apparatus must be kept free and in working order.

Enginemen must always test the continuous brakes, and ascertain for themselves if they are in good working order when the engines are coupled up to the train, and immediately before starting on a journey.

S. W. Johnson,
Derby, Locomotive Superintendent.
12th August 1885.

SOUTH-EASTERN RAILWAY.

General Instructions applying to trains worked by either Continuous Brake.

The hand brakes are always to be applied by the guards whenever the train is stopped by signal, or at any intermediate station, other than where appointed to call.

Station-masters, inspectors, and foremen must give special attention to the proper coupling of the continuous brake pipes, and make such arrangements as will prevent these pipes being in any way improperly used.

The guards must see that the pipes of the continuous brakes on their trains are properly coupled together before starting, and whenever any engine or vehicle is attached or detached; and they must, frequently during the journey, examine the pipes and ascertain they are in good order, and remain properly coupled together.

Guards are required to enter on their journals whether their trains were worked with the continuous brake, stating whether vacuum or automatic, also give full particulars of any defect, failure, or unsatisfactory working of the brake of their trains, or any portion of the fittings, couplings, &c.

Drivers must not depend on the brake until they have tested and found it to work properly. For this purpose they will test the brake before starting, and also wherever the engine is changed. Engine drivers must, before passing the distant signals for stations where the train has to be stopped, or at stations and junctions where the speed has to be reduced, try the brake to see that it is in good working order. Occasionally during the journey, and when descending sharp inclines, the continuous brake must be tried by the engine-driver to ensure it being in perfect working order.

At terminal stations the ordinary stopping must be done by the hand brakes, and the vacuum brake only used by the driver when he sees that the hand brakes will fail to stop the train at the proper place. No train must be allowed to travel between the distant signal and any terminal station at a higher rate of speed than will admit of the train being stopped by the hand brakes.

CALEDONIAN RAILWAY.

Description and Instructions as to the working of Continuous Automatic High-pressure Air Brakes for Passenger Trains.

The Westinghouse System.

Description.

The air used to apply the brake is compressed by a small engine and pump placed on the locomotive. The driver or any of the guards can apply the brake, *and it applies itself in the case of a break-away, or the failure of any of its vital parts.*

The engine, tender, and each vehicle of the train is fitted with the following parts:—(1) a triple valve, (2) a supplementary air reservoir, and (3) a cylinder with piston-rods; the latter in connection with (4) the brake lever and blocks. Upon the engine a main reservoir also is fitted.

When a train is made up and ready to start, and also when it is running, compressed air stands at equal pressure in the pipe from end to end of the train, and in the triple valve and supplementary reservoir on each vehicle, but in the main reservoir the pressure is about 10 lbs. in excess of that in the train.

The brake is *applied* by a *decrease* of pressure in the main pipe. This causes the triple valve to move down, and to allow the air stored in the supplementary reservoirs to pass instantly into the cylinders, force out the pistons and rods, and cause the blocks to press against the tyres of the wheels.

The brake is *released* by an *increase* of pressure in the main pipe, by allowing air to pass from the main reservoir along the train. This moves the tripie valves up, re-charges the supplementary reservoirs, and at the same time allows the air which had forced out the pistons to escape into the atmosphere.

Instructions.

Drivers must see (1) that the top or steam cylinder is kept well lubricated; (2) that the air cylinder is sparingly lubricated with a small quantity of paraffin *—tallow or oil must not be used in the air cylinder;* (3) that the pump shall be *constantly run*, but never faster than is necessary to maintain the required air pressure; and (4) *that air of 75 lbs. pressure is carried.*

For ordinary stops the brakes should be applied lightly by turning the handle of the driver's valve to the right, and gently closing it again, after a reduction of pressure in the brake pipe of not less than 5 lbs. nor more than 8 lbs. has been made. If the pressure runs up on the gauge when the handle is brought back, it shows that the valve has been shut too quickly. Just before coming to a stand the brakes should be released, so as to avoid any jerk.

Drivers must exercise care and moderation in applying the brakes for ordinary stops, so as to bring their trains to rest without inconvenience to the passengers, and the brakes must not be used with more than half their full force, except in cases of emergency.

The brakes are fully applied when the pressure shown on the gauge is reduced 25 lbs. Any further reduction would be waste of air. *In case of emergency, however, the handle must be turned so as to let all the air in the brake pipe escape.*

Long trains require more careful handling than short trains, and a greater quantity of air must be discharged from the brake pipe to make the same reduction per square inch on the gauge.

In releasing the brakes the handle must be moved quite against the stop, and kept there for about *ten seconds*, and then moved back against the intermediate stop, which is the feed position, and *where it must remain whilst the train is running.*

Drivers, upon feeling that the brakes have been applied by the guard, or automatically, must at once aid in stopping the train by turning the handle of the brake valve towards the right, thus preventing escape of air from the main reservoir.

Drivers and firemen are *at all times* responsible for having the couplings between the engine and the first vehicle of the train properly connected, and for seeing that the cocks in the brake pipe are open; and before starting, and at intermediate stations where the composition of the train has been altered, they must ascertain from the guard the number and position of the brake-fitted vehicles connected with the engine, and be guided on the journey in the application of the brake accordingly. Also, before attaching to a train, the air must be raised to the full pressure at which it is to be worked during the journey, and, after attaching, the brakes must be applied with full pressure

and taken off, in order to properly test the several pipes and connections. This operation to be repeated after the guard tests the brake from the van, to ensure all the brakes coming properly off.

Drivers must be careful to drain the water out of the main reservoir and drip cup once a week, especially in winter time.

If vehicles, having different air pressures, be coupled together, the brakes will apply themselves on those which have the highest pressure. Drivers should therefore, keep the handle of their brake valve in the neutral position until their train is all coupled up. To ensure the certain release of all the brakes in the train, and also that trains may be charged quickly, the driver must carry the maximum pressure in the main reservoir before connecting to a train, and then put the handle of his brake valve in the release position until the train is charged with air. If the brakes on the engine and tender thus apply themselves by being coupled to a train not charged, they should at once be taken off by opening the release valves from the brake cylinders.

When approaching *terminal stations*, particularly on *falling* gradients, *great care* must be exercised to have the train so under control with the air brake, that, if required, it can be stopped by the *tender hand brake only* before the engine *reaches* the *station buffers*. This must also be very carefully observed in the case of trains that arrive in *docks*, and behind other trains in through stations.

Pilot engines assisting in front must be coupled to the train engine as closely as practicable, and the driver of the leading engine must not put on steam until the steam of the train engine is on, whether this may be in starting or for the purpose of increasing the speed after the steam has been shut off, neither must the tender brake of the leading engine be applied until the train brake is on, and when it is applied, it must not be released until the train brakes are entirely off.

In all cases of two engines being coupled together and fitted with the Westinghouse brake, the brake couplings must be connected, and the driver of the leading engine take full control of the brake power of the train; and the driver's valve of the *train engine* must be placed and *remain in the neutral* position, so as to cut off the communication from the main reservoir of that engine to the train pipe.

The indicator on the train engine will then only show the pressure the leading engine is maintaining in the train pipe. It is essential that the *pressure* in the main reservoir of the *train engine* be *kept above* that in the *train pipe*, otherwise the brakes will apply themselves by air escaping from the train pipe past the driver's valve to this main reservoir.

The air pump of the train engine must, therefore, be kept slowly and steadily working, independent of the pressure shown on the indicator.

The driver of the train engine to take no action in the ordinary stoppages, but he must be, at all times, prepared to apply the brake in cases of emergency.

Guards. — Before starting, and at intermediate stations, where the composition of the train is altered, guards must, in order to guide them on the journey in the application of the brake, make themselves thoroughly aware, personally, of the number and position of the brake-fitted and pipe-fitted vehicles in the train, and must go forward to the driver and give him this information. When there is more than one guard with the train, this will be the duty of the head guard.

Guards must be prepared to apply their hand-brakes as efficiently as possible on being warned by the driver by whistle, and they must not be taken off until the driver gives the whistle "Brakes-off," or until all the vehicles of the train have completely come to a state of rest—including the rebound, if any, of the carriage buffers—and when the hand-brake is being released it must not be allowed to fly off, but must be taken off slowly.

In all cases of trains arriving at terminal stations and in docks, and behind other trains in through stations, guards must apply their hand brakes as far as is necessary to assist in stopping at the proper place.

Guards, when they have occasion to apply the continuous brake from their van, must open the tap and allow the air to escape until the train is brought to a stand, but they should only use the continuous brake in cases of emergency.

Guards must in all cases take the *hand brakes clear off* before starting.

General.—Testing of Brake.—To ensure that the carriages are properly connected, and that the stop-cocks between the engine and the rear vehicle of the train are all open, a test must be made before starting from a terminal station, and after any vehicles are attached or detached on the journey, and after a fresh engine is attached, in the following manner, viz.:—

The guard in charge will allow the air to escape from the tap in the rear van, until the pressure is reduced by at least 10 lbs., after which the pressure should again rise to at least 40 lbs., indicating that the pipes are properly connected and open throughout, and the guard must note the pressure in his journal.

If the air pressure does not rise, the guard will exhibit a red signal to the driver, and both driver and guard must then ascertain what is wrong, and, after putting it right, have the brake again tested.

When the pressure does rise, the guard will exhibit a white signal to the driver until it is acknowledged by the latter giving a signal by hand during the day and by a white light at night. The driver must thereafter apply the brake with full force from the engine, allow it to remain on for about 10 seconds, and then release it quickly. This is done to ensure that the brakes are properly released from all the vehicles after the test is made by the guard, and the driver must not start the train until the white signal is given by the guard and acknowledged by him.

The test should be made five minutes before the departure of the train, and the signal for starting the train must not be given by the guard until this has been done.

The white and green signals must not be exhibited together.

Should there be a vehicle behind the rear brake van, air must be allowed to escape from the rear stop-cock of that vehicle sufficient to apply the brakes on the train, and, after this has been done, the test from the rear brake van, as described above must be made.

Cut-off Arrangement.—When necessary from any cause the brake of any vehicle can be put out of operation without affecting the working of the brake on the other vehicles of the train by closing the tap under the vehicle between its brake-pipe and triple valve.

When a driver or guard closes this tap, he must report the fact to the carriage examiner at the end of the journey, and the guard must note the same on his journal, giving number and class of vehicle, and reason for closing the tap.

It is the duty of the staff at stations where trains are made up, and where vehicles are attached or detached, to adjust the couplings and air pipes properly, and to be most particular in screwing all of the vehicles *tightly* together, and it is the duty of the fireman to attach the engine to the train before starting, and to detach it at the end of the journey. When the engine requires to be detached at any station for shunting purposes, it is the duty of the station staff to do so, and to do all attaching and detaching of the engine, except in cases of the staff being limited or otherwise engaged, when the fireman must perform the duty at the request of the person in charge. It is the duty of the fireman, when the engine is brought back to the train preparatory to starting, to attach it properly to the train.

Caledonian vehicles not fitted with the Westinghouse apparatus, but fitted with pipe for conveying air to the other vehicles of any train of which they

may form a part, will be distinguished by having a *knob* on the handles of the cocks, which are on the main pipe at the ends of the vehicles, and must be carefully noted before starting trains from terminal stations, or intermediate stations where vehicles are attached or detached by the guard, who must inform the driver. The L. & N.W. vehicles so fitted have the end pipes painted red.

To prevent the valve in the guards' brake vans being tampered with, neither Company's servants (unless duly authorised) nor passengers must be allowed to travel in the brake vans, and those unoccupied must be locked up.

The main pipe is fitted with a stop-cock at the ends of each vehicle; the cocks are *open* when the handles are standing across or away from the pipe, and shut when the handles are up or alongside the pipe. *Upon no account must any train be started from a station without all of these cocks being open, except the cock on rear end of the last vehicle, and the one on the leading end of the front engine;* and when the train has to be separated for attaching or detaching, or taking off the engine, the stop-cocks where the separation is to take place *must be shut before* the flexible pipes are disconnected, and when the train is made up again the flexible pipes must be connected *before* the cocks are opened.

If the brakes are applied by the separation of the train, or the breaking of a pipe, they can be released by opening the small release valves in the brake cylinder or pipes leading thereto, which is done by pulling a wire attached to both sides of the frame of the carriage. If the brakes are applied after the engine has been disconnected, they can be released as above or by again connecting to the engine.

Before detaching the engine or any vehicles, the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or tap when the engine is away, may cause inconvenience in shunting. Under these circumstances, guards must give special attention to their hand brakes.

At stations where the composition of trains is altered, the staff must be careful to see that all the brakes are clear off, and no train must be allowed to leave with the air brakes on any part however slight. Drivers must stop if they feel the train is being retarded, and have the brakes properly released.

The pipes and joints must be tested with screw-key, where necessary, and kept air-tight, and, when leaks are discovered, they must be corrected, if serious, before the vehicle is again used.

The hose coupling, when not used for connecting the brake between two vehicles, must be attached to the hook provided.

Any defect occurring in the working of continuous brakes must be pointed out by the guards or drivers immediately on arrival at—

Carlisle,	Stirling,
Beattock,	Oban,
Carstairs,	Perth,
Edinburgh,	Dundee West,
Glasgow (Central),	Do. East,
Do. (Buchanan St.),	Forfar,
Gourock (week days),	Montrose,
Greenock (Sundays only),	Aberdeen.
Hamilton,	

to the carriage examiners at these stations.

In the event of a flexible pipe bursting on the journey, the guard will telegraph forward to the first carriage examining station to have a new pipe in readiness to replace the defective one. Any irregularities or special circumstances in the working of the brake, or defects in its action, must also be specially reported by the guard in charge, to his district superintendent, as well as on his guard's journal, giving every particular mentioned in the printed forms supplied for that purpose.

Carriage examiners should see (1) that the brake connexions are perfect and properly adjusted for the wear of the blocks and wheels by being uniformly taken up. The pistons of double piston cylinders should each travel not less than two, nor more than 3¼ inches. Those of single piston cylinders should travel not less than four nor more than 6½ inches. (2) that the brake cylinders are perfect and lubricated at least every three months with *paraffin oil*, and (3) that the couplings and other parts are tight, and (4) that they always have on hand, at a convenient place, one or more flexible pipes, with couplings fixed, ready to screw at once on to any vehicle that may require such.

Stop-Cock Handles on G. and S.-W. Plant.—All G. and S.-W. vehicles, with folding end doors, have the handles for the Westinghouse stop-cocks of the main pipe standing the reverse way to those on other vehicles.

Guards must state in their journals whether the train has been worked by the Westinghouse or vacuum brake.

The Vacuum Brake.

Description.

The vacuum used to apply the brake is produced by an ejector placed on the locomotive. This ejector is double, consisting of a large and a small one, the latter being placed inside the former. The large ejector is used for creating a vacuum, and the small one is worked continuously for maintaining the vacuum during the journey.

Each vehicle is fitted with—

1. A ball valve.
2. A supplementary reservoir, with
3. Diaphragm cylinder with piston rod or rods; these are connected.
4. With the brake levers and blocks.

When a train is made up and ready to start, and also when it is running, a vacuum not less than 18 ins. stands equally in the main pipe, from end to end of the train, and in the supplementary reservoir, and on each side of the diaphragm piston of the cylinder.

The brake is applied by admitting air to the train-pipe, and the bottom side of the diaphragm piston of the cylinder.

This causes the ball valve between the train pipe and the top side of the diaphragm piston of the cylinder to seat itself, and retain the vacuum in the top of the cylinder, and in the supplementary reservoir communicating with it, thus allowing the atmospheric pressure in the train-pipe to act on the diaphragm piston and apply the brake.

The brake is released by again producing a vacuum in the train-pipe and the bottom side of the diaphragm piston of the cylinder by the driver applying the ejector; or when the engine is detached, by moving the lever on the sole bar of the carriage from "auto" to "release." Vehicles which do not have a lever for this purpose, or have not "release" marked on quadrant, are fitted with a wire or cord fixed under the body of the carriage which must be pulled, thus allowing air to enter the supplementary reservoir and top side of the diaphragm and destroy the vacuum.

Instructions.

Drivers.—Before starting, must see that the gauge indicates at least 18 inches of vacuum, and that not less than this amount is maintained during the journey, and while standing at stations. The vacuum is created by admitting steam to the small ejector by means of the steam cock on combination ejector; the small ejector must be kept at work continuously.

In order that engine drivers, before starting from stations with trains fitted with this brake, may know when the brake connections are complete, the guard will give a red hand signal when all is ready for the vacuum to be created. The driver must not open the ejector while trains are being coupled up, nor until the

guard, by exhibiting this signal, indicates that he may do so.

When the proper amount of vacuum has been indicated on the train pipe gauge in the rear van, the guard will give a white hand signal, and afterwards test it by opening the valve; the driver will then re-create the vacuum.

In ordinary running, the handle of the combination ejector must stand at "running position."

Where two engines are attached to a train, the hose couplings between the engines must be connected, and the driver of the leading engine will be held responsible for the working of the brake.

It is the duty of the fireman, when the engine is attached to the train to connect the hose coupling on the engine to that on the train; and it is his duty when the engine is separated from the train to place the hose coupling of the front carriage on to the stopper provided for the purpose.

Guards.—Before starting from a terminal station, and at intermediate stations where the composition of the train is altered, must see that carriages fitted with lever on the sole-bar have such levers in the "auto." position, that the hose couplings are all connected, and that the one at the end of the train is placed upon the plug; and he must also inform the driver what brake-fitted and pipe-fitted vehicles are in the train.

To ensure that the brake is properly connected throughout the train, the following test must be made five minutes before the departure of the train from a terminal station, and after any vehicles are attached or detached on the journey, and after a fresh engine is attached, viz.:—

The guard in charge will exhibit a red signal to the driver, who in response will create the vacuum. If the train-pipe gauge in the rear van does not show 18 ins. of vacuum, the guard must continue to exhibit the red signal until the necessary vacuum is created. When the proper amount of vacuum has been created, the guard will give a white signal to the driver, and afterwards make a test by opening the emergency valve. The driver will then re-create the vacuum, and the guard must enter on his journal the amount of vacuum, which must not be less than 18 ins., and also record on his journal the amount of vacuum registered on the gauges occasionally during the journey.

When the guard has occasion to apply the brake he must open the emergency valve placed in his van and hold it open until the needle of the gauge goes back to zero. This is only to be employed in cases of emergency.

Guards must see that during the journey nothing is placed so near as to interfere with the lever of the emergency valve in the brake vans.

If, during the journey, the guard should notice anything wrong with the brake apparatus, or should the vacuum gauge show less than 18 inches, he must call the driver's attention by pulling the communication cord, and showing to the driver a green signal by hand lamp or flag. This will signify to the driver that the automatic brake must not be relied upon for pulling up the train at the next stopping station, and the guard must be prepared to assist the driver with his hand brake. In the case of trains not fitted with communication cord, the guard must apply his hand brake, when approaching the next stopping place, in sufficient time to bring the train to a stand at the platform without the aid of the vacuum brake, and must advise the driver of the state of the train pipe gauge in his van before proceeding.

In foggy weather the driver must bring the train to a stand immediately the cord is pulled.

Any irregularity or special circumstances in connection with the working of the brake, or defect in its action, must be reported by the guard in charge on his journal. The carriage examiners must be advised at the next stopping station.

The continuous brakes throughout the train being under the control of the driver, the use of the hand brake in the vans is not required for ordinary stops, but guards must apply the hand brake immediately on its being called for by the driver's whistle, *and must in all cases use their hand brakes to stop trains on approaching terminal stations, dock sidings, or principal stations, and must not rely on the drivers pulling up trains by means of the vacuum brake.*

When shunting has to be performed on a rising or falling gradient the guard must leave his hand brake on.

In case of a train becoming divided the guard in the rear van must put the hand brake hard on before going back to protect his train.

General.—Vehicles fitted with a lever on the sole-bar must have that lever placed at the "Automatic" side of quadrant, unless when turned to "Cut-off" or "Release" for shunting purposes. When the brake gear of such vehicles is out of order from leakage or any other cause, the lever on the sole-bar must be moved into the "cut-off" position. This will prevent the brake gear from working on that vehicle, but will not interfere with the brake on the remainder of the train.

Engines Nos. 83, 88, 89, 90, 91, and 113, stationed at Carlisle, and Nos. 410, 411, and 412, stationed at Polmadie, have been fitted, in addition to the Westinghouse brake for engine, with a combination ejector for working trains of foreign companies' carriages fitted with the vacuum brake.

When a train of foreign companies' stock, fitted with the vacuum automatic and not with the Westinghouse brake, has to be worked on any part of the line, one of these engines will be provided for it.

The end vacuum pipes of Caledonian vehicles which are fitted with vacuum pipes, but which have no brake apparatus operating on their wheels are painted a distinctive colour (red). The West Coast Joint Stock carriages and vans are fitted with the combined Westinghouse and vacuum brakes, the former for working over this company's line, and the latter for London and North-Western line.

Through Trains.—Scotland and England.—Down Trains.—Trains which have been worked into Carlisle by London and North-Western engines must have the vacuum destroyed on each vehicle in the following manner before the train is taken forward by a Caledonian Westinghouse engine:—

1st. Remove the pipe of vacuum brake from stopper on the end of rear vehicle.

2nd. Turn the lever on the sole-bar from "auto." to "release," and seen that the brake blocks come off.

3rd. When vehicles have a *release wire* in addition to having "auto." and "release" on the sole-bar, *such wire must be pulled* as well as the lever put into the release position, in order to destroy the vacuum in both cylinder and reservoir.

4th. When the quadrant is not marked "release," the vacuum must be destroyed by pulling the release wire on that vehicle, and also seeing that the brake blocks come off.

5th. Replace the pipe on the stopper at the end of the rear vehicle.

Guards must see, before starting from Carlisle, that the vacuum has been destroyed by examining the vacuum indicators in the vans.

The London and North-Western Company's fireman will leave the vacuum pipe off the stopper when he uncouples his engine from the train; and the Caledonian Railway fireman must put the vacuum pipe on the stopper when he couples his engine on to the train.

When there are any vehicles to detach at Carlisle from the front of the train, the Citadel station shunter must leave the vacuum pipe off the stopper of the front vehicle for the Caledonian line in the same way as the London and North-Western Company's fireman is required to do in the other case.

Up Trains.—Trains going South must have all the levers on the sole-bars placed in the "auto." position of the quadrants when the train *arrives* at

Carlisle. In order that this may be carried out, stationmasters must arrange for their staff putting the lever of each vacuum-fitted vehicle in the "auto." position and release wire pulled before it is despatched from their station.

Vehicles from the Highland line, fitted with the vacuum brake, and having a quadrant on the sole-bar, must have the vacuum destroyed in the same way as is done in the case of trains off the London and North-Western Railway.

GLASGOW AND SOUTH-WESTERN RAILWAY.

Notice.

WESTINGHOUSE CONTINUOUS BRAKE.

Description and Instructions for Working.

DESCRIPTION.

The air used to apply the brake is compressed by a small engine and pump placed on the locomotive. The driver or any of the guards can apply the brake, *and it applies itself in the case of a break-away, or the failure of any of its vital parts.*

The engine, tender, and each of the vehicles of the train is fitted with the following parts:—(1) a triple valve, (2) a supplementary air reservoir, and (3) a cylinder with piston rods; the latter in connection with (4) the brake lever and blocks.

When a train is made up and ready to start, and also when it is running, compressed air stands at about equal pressure throughout its length, that is to say, in the main reservoir, in the pipe from end to end of the train, in the triple valve and supplementary reservoir on each vehicle.

The brake is *applied* by a *decrease* of pressure in the main pipe. This causes the triple valves to move down, and to allow the air stored in the supplementary reservoirs to pass instantly into the cylinders, force out the pistons and rods, and cause the blocks to press against the tyres of the wheels.

The brake is *released* by an *increase* of pressure in the main pipe, by allowing air to pass from the main reservoir along the train. This moves the triple valves up, recharges the supplementary reservoirs, and at the same time allows the air which had forced out the pistons to escape into the atmosphere.

INSTRUCTIONS.

Drivers must see (1) that the top, or steam cylinder is kept well lubricated, (2) that the air cylinder is sparingly lubricated with a small quantity of refined petroleum,—other oils or tallow *must not be used in the air cylinder*,—(3) that the pump shall be *constantly run*, but never faster than is necessary to maintain the required air pressure,—and (4) *that air from* 50 *to* 60 *pounds pressure for stopping trains, and from* 70 *to* 80 *pounds pressure for express trains*, is carried.

For ordinary stops the brakes should be applied *lightly* by turning the handle of the driver's valve to the right, and *gently* closing it again, after a reduction of pressure in the brake pipe of not less than 5 lbs., nor more than 8 lbs. has been made. If the pressure runs up on the gauge when the handle is brought back, it shows that the valve has been shut too quickly.

In ordinary working the brakes are fully applied when the pressure shown on the gauge is reduced 25 lbs. Any further reduction is waste of air. In case of emergency, however, the handle must be turned so as to let all the air in the brake pipe escape.

Long trains require more careful handling than short trains, and a greater quantity of air must be discharged from the brake pipe to make the same reduction per square inch on the gauge.

In releasing the brakes the handle must be moved quite against the stop to the left and kept there for about *ten seconds*, and then moved back against the intermediate stop, which is the feed position, and *where it must remain whilst the train is running.*

Drivers must always satisfy themselves that the brake coupling on their engine is properly connected to that on the train, and that the *cocks in the brake pipe are open.*

Drivers, upon feeling that the brakes have been applied by the guard, or automatically, must at once aid in stopping the train by turning the handle of the brake-valve towards the right, thus preventing escape of air from the main reservoir.

The blocks of the driving wheel brake should be so adjusted by turning the screw that the pistons travel from 3 to 4 inches.

Drivers must be careful to drain the water out of the main reservoir once a week, especially in winter time.

If vehicles having different air pressures be coupled together, the brakes will apply themselves on those which have the highest pressure. To ensure the certain release of all the brakes in the train, and also that trains may be charged quickly, the driver must carry the maximum pressure in the main reservoir before connecting to a train; and then put the handle of his brake-valve in the release position until the train is charged with air. If the brakes on the engine and tender thus apply themselves by being coupled to a train not charged, they should at once be taken off by opening the release valves from the brake cylinders, which ought to be *so arranged as to be worked from the foot-plate.*

After connecting the engine to the train, or after new vehicles have been added, the pipes and reservoirs are to be charged as quickly as possible.

Guards.—Before leaving the terminus, after adding to or detaching from a train on the journey, or on another engine being attached, the rear guard shall ascertain whether the couplings are connected, and the cocks in the brake pipe are all open throughout the train, by applying the brakes from his van and seeing that *they are released from the engine.* If the brake is not in use on the whole train, or if the van is not the last vehicle, the test should be made by opening the cock in the brake pipe of the last vehicle connected.

Guards, when they have occasion to apply the brake from their van, must open the tap and allow the air to escape until the train is brought to a standstill, but they should only use the brake in cases of emergency.

Guards must, in all cases, screw the *hand brakes clear off* before starting,

General.—Before detaching the engine or any carriages the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or tap when the engine is away, may cause serious inconvenience in shunting. The pipes and joints must be kept tight, and when leaks are discovered they should be corrected, if serious, before the vehicle is again used.

The brake pipe has a tap at each end of every vehicle, all of which must be open when the couplings are united except the one at the rear of the train. *These taps must always be opened after connecting the hose couplings, and always closed before separating them.*

If the brakes are applied by the separation of the train, or the breaking of a pipe, they can be released by opening the small release valves in the brake cylinder or pipes leading thereto. If the brakes are applied after the engine has been disconnected, they can be released as above, or by again connecting to the engine.

The brake of any vehicle can be put out of operation, without affecting the others, by closing the tap under that vehicle between the brake pipe and triple valve.

Inspectors should see (1) that the brake connections are perfect and properly adjusted for the wear of the blocks and wheels by being *uniformly* taken up. The pistons of double-piston cylinders should each travel not less than 2 nor more than 4 inches. Those of single-piston cylinders should not travel less than 4 nor more than 8 inches. (2) That the brake cylinders are perfect, and lubricated at least every three months with *mineral oil*. (3) That the hose couplings are united, and the cocks in the pipes are open; that is, the handles must stand across or away from the pipe, except the one at the end of the train, which must lie along the pipe in the shut-off position. (4) That the joints are all air tight.

Note.—No. 3 refers to traffic platform inspector or foreman, who will also see that the hose coupling, when not used for connecting the brake between two vehicles, must be attached to the dummy coupling.

Drivers and guards must at all times arrange to control their trains in approaching terminal stations by the ordinary hand brakes upon the tenders and brake vans, so as not to require the use of the air brakes, unless as an emergency brake, at such place.

W. J. WAINWRIGHT,
Glasgow, *General Manager.*
26th December 1881.

THE VACUUM AUTOMATIC BRAKE.

This brake can be applied throughout the train by the driver from his engine, or by the guard from his van.

Driver's Instructions.—Before starting see that your gauge indicates at least 18 inches of vacuum. This is done by admitting steam to the small ejector by means of a steam-cock placed for that purpose. To apply the brake, move the lever on the combination ejector to "On." In ordinary running this lever must stand at "Running position." To release the brake, move the lever to position "Off." *When the vacuum is suddenly destroyed in the main pipe the brake is full* "On." When separated from your train see that the couplings are placed upon the dummies fixed for that purpose.

Guard's Instructions.—To apply the brake, press down the lever on the valve placed in the guard's van. This admits air throughout the train pipe, and is to be only employed in cases of emergency. This valve opens automatically when the brake is applied with full force by the driver, and ensures rapid action. See that all pipes between carriages are properly coupled together, and that the couplings on the end coaches are placed upon the dummies. See by your gauge that a vacuum of 18 inches is maintained. Report otherwise to driver.

General Instructions.—To release the brakes for shunting purposes (the engine having left the train), first see that the hose coupling at one end of the train is off the dummy, then pull the cord which is fixed under the body of each carriage, as indicated by the arrows. This admits air to the top side of the cylinder, and the brakes come off by gravity.

GREAT NORTH OF SCOTLAND.

WESTINGHOUSE CONTINUOUS BRAKE.

Description and Instructions for Working.

DESCRIPTION.

The air used to apply the brake is compressed by a small engine and pump placed on the locomotive. The driver or any of the guards can apply the brake, *and it applies itself in the case of a break-away, or the failure of any of its vital parts.*

The engine, tender, and each of the vehicles of the train is fitted with the following parts: (1) a triple valve, (2) a supplementary air-reservoir, and (3) a cylinder with piston-rods, the latter in connexion with (4) the brake-lever and blocks.

When a train is made up and ready to start, and also when it is running, compressed air stands at equal pressure throughout its length, that is to say, in the main reservoir, in the pipe from end to end of the train, in the triple valve and supplementary reservoir on each vehicle.

The brake is *applied* by a *decrease* of pressure in the main pipe. This causes the triple valves to move down, and to allow the air stored in the supplementary reservoirs to pass instantly into the cylinders, force out the pistons and rods, and cause the blocks to press against the tyres of the wheels.

The brake is *released* by an *increase* of pressure in the main pipe, by allowing air to pass from the main reservoir along the train. This moves the triple valves up, recharges the supplementary reservoirs, and at the same time allows the air which had forced out the pistons to escape into the atmosphere.

INSTRUCTIONS.

Drivers must see (1) that the top or steam cylinder is kept well lubricated; (2) that the air cylinder is sparingly lubricated with a small quantity of refined petroleum—*tallow or oil must not be used in the air cylinder*; (3) that the pumps shall be *constantly run*, but never faster than is necessary to maintain the required air-pressure; and (4) *that air from 50 to 60 pounds pressure for stopping trains, and from 70 to 80 pounds pressure for express trains*, is carried.

For ordinary stops the brakes should be applied lightly, by opening the valve and closing it gently when the pressure has been reduced from 4 to 8 lbs. on the gauge.

The brakes are fully applied when the pressure shown on the gauge is reduced 25 lbs. Any further reduction would be waste of air.

In releasing the brakes the handle must be moved quite against the stop, and kept there for about 10 seconds, and then moved back against the intermediate stop, which is the feed position, and *where it must remain whilst the train is running.*

Drivers, upon feeling that the brakes have been applied by the guard or automatically, must at once aid in stopping the train by turning the handle of the brake-valve towards the right, thus preventing escape of air from the main reservoir.

The blocks of the driving-wheel brake should be so adjusted, by turning the screw, that the pistons move up from 3 to 4 inches.

Drivers must be careful to drain the water out of the main reservoir once a week, especially in winter time. If vehicles having different air-pressures be coupled together, the brakes will apply themselves on those which have the highest pressure. To ensure the certain release of all the brakes in the train and also that trains may be charged quickly, the driver must carry the maximum pressure in the main reservoir before connecting to a train, and then put the handle of his brake-valve in the release position until the train is charged with air. If the brakes on the engine and tender thus apply themselves by being coupled to a train not charged, they should at once be taken off by opening the release-valves from the brake cylinders, which ought to be *so arranged as to be worked from the foot plate.*

Guards.—Before leaving the terminus, after adding to a train on the journey, or on another engine being attached, the rear guard shall ascertain whether the couplings are connected and the cocks in the brake-pipe are all open throughout the train, by applying the brakes from his van and seeing that they are released from the engine. If the brake is not in use on the whole train, or if the van is not the last vehicle,

the test must be made by opening the cock in the brake-pipe at the rear of the last vehicle connected.

The hose coupling, when not used for connecting the brake between two vehicles, must be attached to the dummy coupling. It is important to observe that the taps at the ends of the vehicles are open when the handles stand across or away from the line of pipes, and closed when parallel to or alongside the pipe.

Guards, when they have occasion to apply the brake from their van, must open the tap and allow the air to escape until the train is brought to a standstill, but they should only use the brake in cases of emergency.

Guards must in all cases screw the *hand brakes clear off* before starting.

General.—Before detaching the engine or any carriages, the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or tap when the engine is away, may cause serious inconvenience in shunting. The pipes and joints must be kept tight, and when leaks are discovered they should be corrected, if serious, before the vehicle is again used.

If the brakes are applied by the separation of the train, or the breaking of a pipe, they can be released by opening the small release valves in the brake cylinder, or pipes leading thereto. If the brakes are applied after the engine has been disconnected, they can be released as above, or by again connecting to the engine.

The brakes of any vehicles can be put out of operation, without affecting the others, by closing the taps under those vehicles, between the brake-pipe and triple valve.

Inspectors should see (1) that the brake connexions are perfect, and properly adjusted for the wear of the blocks and wheels by being uniformly taken up. The pistons of double-piston cylinders should each travel not less than 2 nor more than 4 inches. Those of single-piston cylinders should travel not less than 4 nor more than 8 inches. (2) That the brake-cylinders are perfect, and lubricated at least every six months with *mineral oil;* and (3) that the couplings and other parts are tight.

Special Notes.

When vehicles not fitted with a continuous brake, or having connecting-pipes only, are attached to a train fitted with such brake, or to an engine having the brake on the engine wheels as well as the tender wheels, the guard in the rear van must, immediately upon the continuous or engine brake being applied by the driver, apply his hand-brake, and keep it tightly on either until the train has come to a stand or the driver has taken off his brake and is again going forward, as the case may be. This arrangement is necessary to prevent the rebound of the carriages and possible breaking of the drawbars, which may occur when a powerful brake is applied to the front portion of the train only.

Drivers and guards must at all times arrange to control their trains in approaching terminal stations by the ordinary hand brakes upon the tenders and brake vans, so as not to require the use of the air brake unless as an emergency brake at such places.

NORTH BRITISH RAILWAY.

Westinghouse Automatic and Continuous Brake.

Description.

1. Compressed air is the agent employed to apply the brake. The air is compressed by a small engine and pump placed on the locomotive. The driver or any of the guards can apply the brake, *and it applies itself in the case of a break-away, or the failure of any of its vital parts.*

2. The tender and each of the vehicles of the train are fitted with the following parts:—(1) a triple valve, (2) a supplementary air reservoir, and (3), a cylinder with piston rod; the latter in connection with (4) the brake lever and blocks.

3. When a train is made up and ready to start, and also when it is running, compressed air stands at equal pressure throughout its length, that is to say, in the main reservoir, in the pipe from end to end of the train, and in the triple valve and supplementary reservoir on each vehicle.

4. To apply the brake, air is allowed by the driver to escape, or, in an emergency, by any of the guards. This causes the triple valves to move down, the air stored in the supplementary reservoirs to pass instantly into the cylinders, the pistons and rods to be forced out, and the blocks to press against the tyres of the wheels.

5. To release the blocks from the wheels, air is allowed to pass from the main reservoir along the train. This moves the triple valves up, recharges the supplementary reservoirs, and at the same time allows the air which had forced out the pistons to escape into the atmosphere.

Instructions.

6. *Drivers* must see (1) that the steam cylinder is kept well lubricated, (2) that the air pump is sparingly lubricated with a small quantity of mineral oil,—tallow or lard oil must not be used in the air pump,—(3) that the pump is constantly run, but *never faster than is necessary to maintain the required air pressure,*—and (4) *that air of about sixty pounds pressure is carried.*

7. The brakes must not be used with more than half the full force, except in case of danger.

8. The brakes are fully set when the pressure shown on the gauge is reduced 25 lbs. Any further reduction would be waste of air.

9. To apply the brakes lightly, the tap must be partially opened and *gently* closed when the pressure has been reduced from 4 to 8 lbs.

10. In releasing the brakes the handle must be moved against the stop and kept there for about five seconds, and then moved back just far enough to stop the escape of air from the top of the tap.

11. Drivers, upon feeling the brakes are applied, must at once aid in stopping the train by turning the three-way cock and preventing escape of air from the main reservoir.

12. The blocks of the driving wheels must be so adjusted by turning the screw that the pistons only move up from 3 to 4 inches.

13. Drivers are hereby reminded of the following rule, as contained at page 141 of the book of rules and regulations, viz.:—

> Rule 267*a*. It is the duty of the engine-driver of a train provided with a continuous brake, before starting the train, and at places where the engines are changed, to ascertain from the head guard the number of vehicles there are on the train, and upon how many of them the brake can be applied, and when any vehicles are attached or detached on the journey, the engine-driver must ascertain whether the attaching or detaching of such vehicles will interfere with the working of the brake on the whole or a portion of the train, and if the latter, to what extent.

This rule does not apply to trains made up entirely of vehicles fitted with a continuous brake running daily with the formation unaltered and the brake complete. When, however, in such cases the formation is altered, or vehicles are attached or detached, the guard and the engine-driver must communicate with each other.

14. *Guards.*—On all trains provided with a continuous brake where there are more than one guard,

the guard riding in the rear van for the time being will be held to be the head guard.

15. In order to prove whether the continuous brake is connected throughout, the guard in the rear van must, after the engine has been coupled on to the train, examine the pressure in the gauge, at the same time lifting the handle of the valve and ascertaining that air escapes. If the brake is not in use on every vehicle in the train, or, if the van is not the last vehicle, the test must be made by opening the cock in the brake pipe of the last vehicle connected, which must be one having the *brake apparatus complete*. (See clause 2.) These tests must be made on the following occasions:—(1) Before commencing the journey—invariably whether the train starts from a terminal or roadside station; (2) On the journey—invariably whenever vehicles are added to or taken off the train or any change is made in the engine or the engine is reversed.

16. Guards, when they have occasion to apply the continuous brake from a van, must hold the handle and allow the air to escape until the train is brought to a standstill, but must only use the brake in case of emergency.

17. When any vehicles not fitted with a continuous brake, or having connecting pipes only, are attached to a train fitted with such brake, the guard in the rear van must immediately, upon the continuous brake being applied by the driver, apply his hand brake and keep it tightly on, either until the train has come to a stand, or the driver has taken off the continuous brake, and is again going forward, as the case may be. This arrangement is necessary to prevent the rebound of the carriages, which may occur with trains composed of vehicles when only partially fitted with continuous brake.

18. Guards must, in all cases, screw the hand-brakes clear off before starting.

19. Guards are hereby reminded of the following rule as contained at page 123 of the book of rules and regulations, viz.:—

> Rule 235*a*. The head guard of a train provided with a continuous brake must, before starting the train and at places where the engines are changed, inform the engine-driver the number of vehicles there are on the train and upon how many of them the brake can be applied; and when any vehicles are attached or detached on the journey, the engine-driver must be advised, and told whether the attaching or detaching of such vehicles will interfere with the working of the brake on the whole or a portion of the train, and if the latter, to what extent.

This rule does not apply to trains made up entirely of vehicles fitted with a continuous brake running daily with the formation unaltered and the brake complete. When, however, in such cases the formation is altered, or vehicles are attached or detached, the guard and the engine-driver must communicate with each other.

20. *General.*—Before detaching the engine, the brakes must be fully released on the whole train. Neglecting this precaution, or setting the brakes by opening a valve or tap when the engine is away, may cause serious inconvenience in shunting. The pipes and joints must be kept tight, and when leaks are discovered they must be corrected, if serious, before the vehicle is again used.

21. The brake pipe has a tap at each end of every vehicle, all of which taps should be open when the hose couplings are united, except the one at the rear of the train. These taps must always be opened *after* connecting the hose couplings and closed *before* separating them.

22. If the brakes are applied by the separation of the train, or the breaking of a pipe, they can be released by opening the small taps in the brake cylinder or pipes leading thereto. These taps, after the release of the brakes, must be closed. If the brakes are applied after the engine has been disconnected, they can be released as above, or by again connecting.

23. It is important to observe that the taps at the ends of the vehicles are open when the handles stand across, or away from the line of pipe, and closed when parallel to, or alongside, the pipe.

24. When the handle of the tap of the triple valve stands across, or away from the valve, it is set for the automatic brake. When against the stop at an angle of 45°, the brake is thrown out of use on the carriage.

25. Care must be taken (1) that the brake connections are perfect and properly adjusted for the wear of the blocks and wheels, (2) that the brake cylinders are perfect and lubricated occasionally with *mineral oil*, and (3) that the couplings and other parts are tight.

Application of Westinghouse Brake.

The attention of engine-drivers and firemen is specially called to the following Standard Instructions issued by the Westinghouse Brake Company:—

> "Engine-drivers must exercise care and moderation in applying the brakes for ordinary stops, so as to bring their trains to rest without inconvenience to the passengers and to avoid damage to couplings.
>
> "To ensure this, it is necessary that the brakes should be applied moderately in the first instance at a distance of several hundred yards from the station. *Just before coming to a stand the brakes should be released*, so as to avoid any jerk, and the *hand brake* on engine or tender must be applied *to stop* and hold *the train*."

Engine-drivers and firemen are requested to carry out these instructions carefully; any failure to comply therewith will be seriously noticed.

VEHICLES FITTED WITH WESTINGHOUSE AUTOMATIC AND CONTINUOUS BRAKE APPLIANCES.

As far as possible, vehicles with the Westinghouse brake fittings must compose those trains which are worked by engines having the Westinghouse brake appliances attached, *a preference being always given to express and fast trains, which must, when practicable, be formed entirely of such vehicles.*

It is not intended that any train shall be composed partly of Westinghouse brake carriages and partly of other carriages, but it is meant that the trains shall be made up entirely of either one or the other kind of stock, so that the Westinghouse brake trains may always be complete. But, in cases where there may not be sufficient vehicles with the necessary fittings to compose the whole train, it is desirable that those with the Westinghouse brake be placed continuously next to the engine, so that the largest possible measure of brake power may be available.

Westinghouse brake carriages must not, except from unavoidable circumstances, be run upon trains whose engines are not fitted with the Westinghouse brake. Whenever it happens that Westinghouse brake carriages must be so used, the station-master attaching such carriages must report the case to the General Superintendent's office, giving the reasons why such was done; and the guards must also note the fact specially in their train reports, mentioning how many Westinghouse vehicles were on their train.

BELFAST AND NORTHERN COUNTIES RAILWAY.

ARRANGEMENTS FOR WORKING VACUUM AUTOMATIC BRAKES.

All trains working with the automatic brake are to be controlled by drivers only. The guards are not to apply these brakes except in cases of emergency.

When entering terminal stations these brakes will not be used; it will, therefore, be necessary for the drivers and guards to use the hand-brakes, as they have formerly been in the habit of doing.

Before starting, the vacuum gauges in engine and brake-van must indicate a vacuum of at least 15 inches, and this vacuum must be constantly maintained, excepting, of course, when air is admitted to apply the brakes.

On arrival at a terminal or other station where the vehicles are to be shunted or taken on by an engine not fitted with the automatic brake, it will be necessary to go to each vehicle in turn to leak the brakes off by pulling the wire placed under the frames for that purpose, before the vehicles can be moved.

The driver of a train provided with continuous brakes must be informed by the guard before starting, and at places where engines are changed, how many vehicles there are on the train, and upon how many of them the brake can be applied; and when any vehicles are attached on the journey the driver must be told whether the attaching of such vehicles will interfere with the working of the brake on the whole or any portion of the train, and if the latter, to what extent. The driver must see he gets this information.

When vehicles are supplied with connecting pipes only they must be considered as vehicles without brakes.

When vehicles not fitted with the continuous brake, or having connecting pipes only, are attached in rear of a train fitted with such brake, the guard in the rear van of such portion must, immediately upon the continuous brake being applied, apply his hand-brake, and keep it tightly on either until the train has come to a stand, or the driver has taken off the continuous brake, as the case may be. This arrangement is necessary to prevent the rebound of the carriages and possible breakage of drawbars, which may occur when a powerful brake is applied to the front portion of a train only. Vehicles fitted with connecting pipe only should, when possible, be placed between the engine and carriages, or as near the engine as possible.

It is the guard's duty before starting to see that all pipes between the vehicles are properly coupled together, and that the pipe at rear of last vehicle is placed on the iron plug fixed for that purpose to the train pipe.

Guards and drivers must report all irregularities in the working of trains fitted with the automatic vacuum brake.

Guards to note in journal, and drivers to note on mileage sheets trains worked with continuous brakes

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CAVAN, LEITRIM, AND ROSCOMMON LIGHT RAILWAY AND TRAMWAY.

Instructions for Working the Automatic Vacuum Brake.

The brake can be applied throughout the train by the driver from the engine or by the guard from the van.

Creating Vacuum.—The engine having been coupled to the train and the hose coupling between the tender and train, also those between the vehicles connected and the one at the end of the train placed upon the plug, the driver admits steam to the small ejector which will soon exhaust the train pipe and cylinders, to a vacuum of 20 to 24 inches, or the large ejector may be used if the vacuum is required to be obtained more rapidly. The small ejector must be kept at work continuously to maintain the vacuum.

Before starting the driver must see that the gauge indicates at least 18 inches of vacuum, and that not less than this amount is maintained during the journey and while standing at stations. The vacuum is created by admitting steam to the small ejector, by means of the steam cock on combination ejector.

To apply the brake, move the handle on combination ejector in the direction marked "Brake on."

To release the brake, move the handle on combination ejector in the direction marked "Brake off."

In ordinary running this handle must stand at "Running Position."

When the guard has occasion to apply the brake, he must press down the handle on the valve placed in his van. This admits air throughout the train pipe, and is only to be employed in cases of emergency. The valve in the van opens automatically when the brake is applied suddenly by the driver, and ensures rapid action. The guard must see by the gauge in his van that a vacuum of at least 18 inches is maintained, or report otherwise to the driver. He must also see that all pipes between the carriages and engine are properly coupled together, and that the coupling on the last vehicle is placed upon the plug.

Whenever the pipes between the vehicles are disconnected the coupling must be placed upon the stop plug at the end of the vehicle.

To release the brake for shunting purposes (the engine having left the train), first see that hose coupling at one end of the train is off the plug, then pull the wire or cord fixed under the frame of each carriage. This admits air to the top side of the cylinder and the brakes fall off by gravity.

To couple the pipes the guard or porter must take one in each hand, and lift them sufficiently high to hook the bottom horns of the coupling together first, and then, by lowering them, place the top horns of the couplings in the slots.

To uncouple the pipes the guard or porter must simply lift them straight up, when the horns at the top will come out of the slots and the coupling will then separate.

The responsibility for properly coupling up all vehicles rests with the station staff and the guard; and the driver is responsible for his engine being properly coupled up by his fireman.

Urban Broughton,
Traffic Manager.

CORK AND MUSKERRY LIGHT RAILWAY.

Trains with Patent Continuous Brake.

Vehicles (not being fitted with the apparatus) must be put at the rear of these trains, in order to preserve the continuity of the brake connexions in front.

Not more than four may be attached behind the guard's van, and proper couplings must, in all cases, be used, care being observed to have the usual tail lamp on the last vehicle.

Instructions to Engine Drivers.

Application of the Brakes.

Before starting at the beginning of each journey the train must be examined to see what number of brake-fitted vehicles are connected, and the number that are in the rear of the train not fitted with brakes, or, if fitted, are not under the control of the driver.

Ordinary stoppages must not be made too quickly, and to avoid this the brake must be applied slightly some distance from where the train is to be stopped, and the application of it gradually and uniformly increased until the train comes to a stand, and must at all times be released very cautiously, to prevent the jerk consequent on the rebound of the carriage buffers and the engine shooting ahead, and to avoid subjecting the couplings to undue strain, and the passengers to discomfort.

This method of application to be carefully attended to when there are vehicles in rear of the train not fitted with brakes, and in such cases it is the duty of the guard to apply the rear brake.

When approaching terminal stations, particularly on falling gradients, great care must be exercised to have the train so under control that, if required, it could be stopped by the tender brake before the engine reaches the station buffer-stop.

Drivers must satisfy themselves that the brake is at all times in good working order. Before starting from a terminal station they must never fail to put on the brakes, and notice if the ejectors maintain a good vacuum both with the engine and carriage brakes. They must from time to time test its working.

The tender hand brake is not to be used for ordinary stoppages, but must be used occasionally when running light, in order to its being kept in a state of efficiency for emergencies, and always at terminal stations.

CORK, BANDON, AND SOUTH COAST RAILWAY.

Working Automatic Vacuum Brake.

Description.

1. The automatic vacuum brake stops the train by the application of the brake blocks to the tyres, in the same way as the ordinary hand-brake; but the levers which apply the blocks, instead of being worked by a screw, are worked by a cylinder and piston, actuated by atmospheric pressure.

2. The brake can be applied throughout the whole of the vehicles fitted with the apparatus by the engineman from the engine, or by the guard from his van; but in order that this may be done, it is imperative that the flexible connexions between each carriage, and between the engine and the train, shall be properly coupled up.

Instructions for Working.

3. In the formation of trains, when the whole of the coaches are not fitted with the automatic vacuum brake, those that are so fitted must be placed together, and next to the engine. In all cases where the automatic vacuum brake is only partially fitted to a train, a brake van, with a guard in it, must be the last passenger vehicle in the train, and this guard must apply his hand-brake in running into all stations where the train is to be stopped.

4. Before starting, the engineman must see that his gauge indicates at least 18 inches of vacuum, and this must be kept up during the journey.

5. On no account must the small ejector be shut from the time the train starts until the journey is finished.

6. Six to eight inches in the difference of the train pipe and reservoir gauge is sufficient for an ordinary stop, and the handle should be moved into the running position before the train stops, so as to avoid jerking the train.

7. The steam-cock on the boiler must always be shut when the engine is in shed, to prevent steam leaking back into the pipes.

8. When the train is approaching a terminal station, a dead-end siding, or a crossing place where a train is on the line before or when an engine is approaching a train containing passengers, for the purpose of shunting or coupling, the hand-brake only must be used; except in cases of emergency, and on such occasions the guard must be ready to assist with his hand-brake.

9. The engineman will be held responsible for coupling the pipes between his engine and the first vehicle of the train.

10. Before leaving terminal stations, or stations where vehicles have been added to or detached from the train, the engineman must get a signal from the head guard to intimate that the gauge in the guard's van shows not less than 18 inches of vacuum, and the guard, before giving such signal, must satisfy himself that the gauge in van shows not less than 18 inches.

11. If from any cause the engineman is unable to obtain at least 18 inches of vacuum, he must inform the guard of the fact, and they must work the train forward with the ordinary hand-brakes.

12. At any station where there is any likelihood of vehicles being put on or taken off, the vacuum in the continuous pipe must be destroyed by opening the air-valve on the engine, so that there may be no delay in coupling or uncoupling.

13. Guards must never apply the automatic vacuum brake except in cases of absolute necessity, and whenever they do so a full report of the circumstances must be made on their journals. They must at all times be ready to apply the hand-brake should the engineman call by whistle for its assistance.

14. In the event of a train parting, the guard in the rear portion must at once apply his hand-brake, and keep it tightly screwed on until the train is again coupled to the engine.

15. The head guard before giving the signal to start at the commencement of the journey, and at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain and inform the engineman:—

1st.—That all vehicles throughout the train fitted with the brake, have the flexible pipes properly coupled up.

2nd.—That the flexible pipe at the rear of the last brake-vehicle is properly placed upon the stop-plug.

3rd.—That 18 inches of vacuum is indicated by the gauge in the rear van on the train; and

In the event of there being any vehicles on the train not fitted with the vacuum brake, the head guard must inform the engineman of the fact before starting, so that the engineman may know what number of vehicles he has control over, and what number are without the vacuum brake.

16. Porters and others are cautioned not to step on the hose-pipes.

17. Porters and others coupling hose-pipes must be careful not to let oil get on the pipes, as it damages the rubber. Carriage examiners are cautioned for the same reason not to oil the piston-rods of the cylinders, but they should be wiped with a dry patch.

18. The brake-blocks of all vehicles must be carefully examined by the carriage examiners, and adjusted by them only.

19. It is necessary that the words "Continuous Brake Train" shall be written at the top of the engineman's sheet and guard's report for every train fitted with the automatic vacuum brake. It is also necessary for the engineman to show on his mileage ticket the trains which have been worked by him with a continuous brake during the week.

20. If from any cause the automatic vacuum brake is not used, or fails to act when required, or if there is any irregularity in its working, a remark to that effect must be made by the guard on his report, and by the engineman on his sheet, which must be accompanied by a special report giving full particulars of the irregularity.

21. To release the brakes for shunting purposes, take the hose-coupling off the stopper at one end, and pull the string fastened to the side of each carriage.

Alex. Gordon,
General Manager.
James W. Johnstone,
Locomotive Engineer.

CORK, BLACKROCK, AND PASSAGE RAILWAY.

General Instructions.

Automatic Vacuum Brake for Regular Use in Daily Working.

Description.

1. The automatic vacuum brake stops the train by the application of the brake blocks to the tyres, in the same way as the ordinary hand brake; but the levers which apply the blocks, instead of being worked by a screw, are worked by cylinder and piston, actuated by atmospheric pressure.

2. The brake can be applied throughout the whole of the vehicles fitted with the apparatus by the engineman from the engine or by the guard from his van; but in order that this may be done, it is imperative that the flexible connections between each carriage, and between the engine and the train, shall be properly coupled up.

Instructions for working.

3. In the formation of trains, when the whole of the coaches are not fitted with the automatic vacuum brake, those that are so fitted must be placed together and next to the engine. In all cases where the automatic vacuum brake is only partially fitted to a train, a brake van, with a guard in it, must be the last vehicle in the train.

4. Before starting, the engineman must see that his gauge indicates at least 18 inches of vacuum, and this must be kept up during the journey.

5. On no account must the small ejector be shut from the time the train starts until the journey is finished.

6. Six to eight inches in the difference of the train pipe and reservoir gauge is sufficient for an ordinary stop; and the handle should be moved into the running position before the train stops, so as to avoid jerking the train.

7. The steam-cock on the boiler, must always be shut when the engine is in shed, to prevent steam leaking back into the pipes.

8. When the train is approaching a terminal station a dead-end siding or a crossing place, where a train is on the line before, or when an engine is approaching a train containing passengers, for the purpose of shunting or coupling, the hand-brake only must be used, and in all such cases, the guard, on hearing the engine whistle, is to apply his hand-brake, and not remove it unless signalled from the engine by two short whistles. Automatic vacuum brake to be only used in cases of emergency.

9. The engineman will be held responsible for coupling the pipes between his engine and the first vehicle of the train.

10. Before leaving terminal stations, or stations where vehicles have been added to or detached from the train, the engineman must get a signal from the head guard to intimate that the gauge in the guard's van shows not less than 18 inches of vacuum; and the guard, before giving such signal, must satisfy himself that the gauge in van shows not less than 18 inches.

11. If from any cause the engineman is unable to obtain at least 18 inches of vacuum he must inform the guard of the fact, and they must work the train forward with the ordinary hand-brakes.

12. At any station where there is any likelihood of vehicles being put on or taken off, the vacuum in the continuous pipe must be destroyed by opening the air-valve on the engine, so that there may be no delay in coupling or uncoupling.

13. Guards must never apply the automatic vacuum brake except in cases of absolute necessity, and whenever they do so a full report of the circumstances must be made. They must at all times be ready to apply the hand brake should the engineman call by whistle for its assistance.

14. In the event of a train parting, the guard in the rear portion must at once apply his hand-brake, and keep it tightly screwed on until the train is again coupled to the engine.

15. The head guard before giving the signal to start at the commencement of the journey, and at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain and inform the engineman:—

1st—That all vehicles throughout the train fitted with the brake, have the flexible pipes properly coupled up.

2nd—That the flexible pipe at the rear of the last brake-vehicle is properly placed upon the stop-plug.

3rd—That 18 inches of vacuum is indicated by the gauge in the rear van on the train; and

In the event of there being any vehicles on the train not fitted with the vacuum brake, the head guard must inform the engineman of the fact before starting, so the engineman may know what number of vehicles he has control over, and wha number are without the vacuum brake.

16. Porters and others are cautioned not to step on the hose-pipes.

17. Porters and others coupling hose-pipes must be careful not to let oil oil get on the pipes as it damages the rubber. Carriage examiners are cautioned for the same reason not to oil the piston rods of the cylinders, but they should be wiped with a dry patch.

18. The brake-blocks of all vehicles must be carefully examined by the carriage examiners, and adjusted by them only.

19. It is necessary that the words "Mixed Trains" shall be written at the top of the engineman's sheet and guard's report when all vehicles are not fitted with the automatic vacuum brake, and the proportion of such vehicles which may be placed at the rear of a passenger train is one in four, the engine counting as two vehicles and waggons (four wheels) half each.

20. If from any cause the automatic vacuum brake is not used, or fails to act when required, or if there is any irregularity in its working, a remark to that effect must be made by the guard on his report, and by the engineman on his sheet, which must be accompanied by a special report giving full particulars of the irregularity.

21. To release the brake for shunting purposes, take the hose coupling off the stopper at one end, and pull the string fastened to the side of each carriage.

GREAT SOUTHERN AND WESTERN (IRELAND) RAILWAY.

Automatic Vacuum Brake.

Instructions as to Working.

Drivers.

Before starting, the driver must blow up the vacuum to 18 inches, and wait until the guard comes up to the engine to tell him whether the gauge in rear van indicates the proper amount of vacuum, and also to give him the other information, as laid down in the guard's instructions below. This is also to be done at each station where any attaching or detaching has taken place.

While running, the vacuum is to be kept as near 18 inches as possible, it must not fall below 15 inches, or rise above 20 inches.

To apply the brake, move the brake handle in the direction marked *ON*.

The difference between the two fingers marked *TOP* and *BOTTOM* on the engine gauge gives the amount of brake pressure at any time; thus, if the

BOTTOM finger indicates 10, and the *TOP* finger 18, then the brake is on with 8 inches. When the brake handle is moved suddenly to the *ON* position for a quick application the valves in the guards' vans open automatically, and the brake is on with a pressure of as many inches as is then shown by the *TOP* finger of the gauge.

To release the brake, move the brake handle to position marked *OFF*, the small ejector will then gradually take the brake off; if necessary to take it off more rapidly use the big ejector.

If the big ejector be pulled when the brake handle stands at ON it will put the brake on harder; if the big ejector be pulled when the brake handle stands at OFF it will take the brake off quicker.

Note.—The amount of vacuum shown by the gauge when the brake was put on must be recreated before the brake will come fully off. Thus, if there was a vacuum of 20 inches when the brake was put on, or if the finger marked *TOP* was blown up to 20 while the brake was on, then it would be necessary to get at least 20 inches on the *BOTTOM* finger before the brake would be fully released.

When running, the brake handle is to stand upright at position marked *R*, and the small ejector is to be regulated to maintain the required vacuum. Should the driver find it impossible to maintain the proper vacuum, or should he be signalled by the guard (pulling the communication cord and showing a green signal), that the vacuum is not maintained on the van gauge, the train must be stopped under the next fixed signals, when the driver and guard will arrange as to what should be done.

(*a.*) The brake may be disconnected from the last three or four vehicles and worked on front portion of train only, the guard working his hand brake, or

(*b.*) If the vehicle with defective brake should be next to the engine, it might be shunted to the rear, and the brake disconnected from it, leaving the brake good on the rest of the train.

(*c.*) The train brake should not be disconnected and put out of use unless absolutely necessary, and then the train must be worked with care and at reduced speed where necessary.

If both fingers of the vacuum gauge suddenly drop to zero (showing that the brake has been applied by the guard, or by separation of couplings), move the brake handle to *ON*, and if required, pull the big ejector.

The brake is not to be used for entering terminal stations or stations with blind ends.

For ordinary stops reduce the vacuum on *BOTTOM* side about 3 or 4 inches, and then regulate the force by giving a little more or less as may be required. A decided reduction of three or four inches should be made when first applying, but if too much air is admitted the valves in the vans will open and apply the brake with full force in spite of the driver.

After coming to a stand at stations where attaching or detaching has to be done, the driver should destroy the vacuum in the train pipes by moving the brake handle gently to the *ON* position, and shut off the small ejector; this will leave the pipes easier to uncouple.

Guards.

The guard can apply the brake by holding down the lever of valve in his van, but he must not make use of the brake except in case of urgent necessity.

Head guard, before giving the signal to start, at the commencement of the journey, and at stations where any flexible pipes have been coupled or uncoupled, must ascertain, and inform the engine driver:—

1st. That all vehicles throughout the train fitted with brakes have the flexible pipes coupled up.

2nd. That the flexible pipes at the rear of the last vehicle are properly placed upon the stop plug.

3rd. That 15 inches of vacuum is indicated by the gauge in the rear van of the train.

In the event of there being any vehicles on the train not fitted with the vacuum brake, the head guard must inform the engineman of the fact before starting, so that the engineman may know what number of vehicles he has control over and what number are without the vacuum brake, and in the case of a foreign vehicle being attached, to indicate to the driver its position on the train. When running, if the vacuum on the van gauge is allowed to fall below 15 inches, the guard must pull the communication cord, and show the driver a green hand signal.

The brake is not to be used for entering terminal stations or stations with blind ends; guards must be at their hand brakes when passing the distant signal for such stations, and must work the hand brake and assist the driver in making the stop.

The working of the continuous brake by the driver does not relieve the guard of any responsibility; he must keep a good look out and be prepared to apply the hand brake if necessary.

Guards must enter in their journals and report particulars of any failure or unsatisfactory working of the brake; they must also see that nothing is placed so as to interfere with the valve lever in their vans.

Guards must not depend upon the automatic brake to hold a train on an incline when detached from the engine, but must use their hand brakes and act as directed in rule book as if the train had no continuous brakes.

General Instructions.

Porters and others must be careful not to step on the brake pipes when crossing the buffers.

When the brake pipes are disconnected they must not be left hanging down, but must be placed firmly on the stop plugs at the ends of the vehicle.

To release the brake for shunting (the engine having left the train) pull the wire which will be found attached to frame of the carriage close to the red star; a light pull is quite sufficient, but the wire must be held for a few seconds till the brakes drop off.

To couple the pipes take one in each hand, lift them high enough to hook the bottom horns of coupling together, then lower them, and the projections on top of the coupling will fall into the slots. To uncouple the pipes, lift the couplings straight up, when they will separate.

When handling the couplings porters, firemen, and others must be careful not to have any waste or sponge cloth in their hands in order to prevent such things getting drawn into the pipes.

When attaching any foreign vehicles having only one train pipe to G. S. and W. trains, couple the pipe on the foreign vehicle to the large or bottom G. S. and W. pipe (*i.e., couple the only pipe which will couple*) and leave the small G. S. and W. pipe on the plug.

All vehicles on which the brake is automatic are marked with a red star on the frame on each side.

H. A. Ivatt, *Locomotive Engineer.*

J. H. Bell, *Superintendent of Line.*

MIDLAND GREAT WESTERN RAILWAY.

Rules to be observed in Working Power Brakes.

Instructions to Enginemen.

Continuous (Vacuum) Brakes applied to Passenger Engines and Carriages.

Before starting on the journey, when the engine is attached to the train, the driver must examine his train to see that all brake-fitted vehicles are con-

nected, and he is to note the number (if any) in rear of the guard's van not so fitted, or, if fitted, which are not connected, so that he may know the amount of brake-power at his command

At each intermediate station, where vehicles are taken on, or left off, it must be ascertained from the guard (whose duty it is to walk forward to the engine and give the information) to what extent the brake-power is affected by the altered composition of the train.

Ordinary stoppages must not be made too quickly, therefore the brake must be applied slightly some distance from where the train is to be stopped, and the application of it gradually and uniformly increased, until the train comes to a stand, and it must at all times be released very cautiously, to prevent the jerk consequent on the rebound of the carriage buffers and the engine shooting ahead, and to avoid subjecting the couplings to undue strain and the passengers to discomfort.

Especial care to be observed when there are vehicles in rear not fitted with brakes.

When approaching terminal stations, particularly on falling gradients, great care must be exercised, so that the stopping of the train may be under the driver's complete control. *All trains are to be stopped at every terminal and junction station by hand-brakes only*, except in case of failure of the hand-brakes, or in the event of some sudden danger arising that calls for the instant pulling up of the train, then the power-brake is to be used.

Drivers must satisfy themselves that the brake is at all times in working order. Before starting from a terminal station they are to put on the brakes and notice if the ejectors maintain a good vacuum both with the engine and carriage brakes. They must from time to time test its working.

Each engine and guard's van will be fitted with a "tell-tale" vacuum gauge. When the vehicles are all coupled together and attached to the engine and a vacuum maintained in the pipes, then the gauge will show the word "right." When the engine is detached, or any of the vehicles separated, the dial will show the word "wrong," which means that the brake is not in working order. This may result from the connecting air-pipes between the carriages not having been coupled up, through some accident to the pipes, or to the vacuum cylinders, or from part of the train becoming detached.

Whatever the cause, when the dial shows "wrong," it is to be understood the vacuum-brake is defective, and no longer to be relied on, and recourse must then be had to the hand-brakes, and prompt steps taken to remedy any accident or make good any defect that may have taken place.

In addition to the tender hand-brake being *always* used when coming into a terminal station it must be used occasionally when running light, to insure its being kept in good working order.

It is the duty of the fireman to couple the air-pipe of the engine to the air-pipe of the train before starting, and to detach it at the end of the journey; and if the pipes between the tender and the next vehicle to it have been uncoupled at intermediate stations for shunting or other purposes, the fireman must see that they are properly coupled before the train starts, and the driver is to see that the fireman properly carries out this work.

Instructions to Guards.

The head guard must examine the train to see the number of brake-connected vehicles, and to give the necessary information, mentioned above, to the driver; and when there are vehicles over which the driver has no brake-control, the guards must give the necessary attention to the hand-brake. The working of the continuous brakes by the driver will not relieve the guards from any responsibility; they must keep a good look-out, and be prepared to apply the hand-brakes whenever any necessity arises. At terminal stations guards must apply their hand-brakes should they think the driver has not his train well in hand, or that there is the least risk of touching the buffer-stops.

The guards of the train must examine the couplings at each station where the stopping time will admit of it, and satisfy themselves, before ordering the train to start, that the pipes are firmly and properly coupled, and that the couplings and pipes are in thoroughly good order.

Guards must enter on their journals full particulars of any defect, failure, or unsatisfactory working of the brakes of their train, or any portion of the fittings, couplings, &c. They must also enter upon their journals any sudden stop made by the application of the power-brake, and state the circumstances.

Guards are required to read, and to make themselves thoroughly conversant with, the *Instructions to Drivers* on the working of continuous brakes; and their special attention is called to the Rule for the application of hand-brakes with mixed and goods trains, and to the use of hand-brakes when coming into all terminal stations.

General Instructions.

Station-masters, inspectors, and foremen must give special attention to the proper coupling of the air-brake-pipes by experienced porters, and must carefully examine the couplings before starting the train. They must make such arrangements as will insure these pipes being cared for, and in no way improperly used.

All the vehicles composing the train are to be coupled tightly together to prevent excessive action of the buffers of the carriages when the brake is applied, and to insure that the air-pipes will not be disconnected by any strain that may be put upon the drawbars.

It is the duty of the staff at stations to adjust the couplings and air-pipes of the carriages properly, and it is the duty of the fireman to attach his engine to the train before starting, and to see to the brake-couplings between the engine and the train. The driver, at stations where trains are first started from, and the head guard at intermediate stations, where vehicles are taken on or left off, are responsible for seeing that the couplings and air-pipes of the carriages composing the train are properly adjusted.

Care must be taken when, from any cause, vehicles fitted with the air-brake are detached from the train, and the pipes disconnected, that the pipes are again coupled; and when, in like manner, vehicles are attached to the train, the pipes must be properly coupled, so as to form continuous communication throughout the train, the pipe on the last brake-fitted vehicle being coupled to its "dummy."

When vehicles fitted with a continuous air-brake are left in sidings or at stations, the brake-pipes of each vehicle must be coupled to the "dummy" (fixed to each pipe) and not left hanging loose.

Porters and others are cautioned that, in passing between vehicles, *they must not step upon the brake-pipes*, or in any way interfere with the connexions.

Carriage trucks must always be put at the rear of trains.

WATERFORD AND CENTRAL IRELAND RAILWAY.

Instructions for Working Continuous Automatic Vacuum Brake.

1. In the formation of trains when the whole of the coaches are not fitted with the automatic vacuum brake those that are so fitted must be placed together

and next to the engine. When the whole train is not fitted, the automatic vacuum brake must not be used for ordinary stoppages, but only in cases of emergency. In all cases where the automatic vacuum brake is only partially fitted to a train, a brake carriage or van, with a guard in it, must be the last passenger vehicle in the train, and this guard must apply his hand-brake in running into all stations where the train is to be stopped.

2. The brake can be applied throughout the whole of the vehicles fitted with the apparatus, by the engineman from the engine, or by the guard from his van; but in order that this may be done, it is imperative that the flexible connections between each carriage, and between the engine and the train shall be properly coupled up.

3. Guards must never apply the automatic vacuum brake except in cases of absolute emergency, and whenever they do so a full report of the circumstances must be made on their journals; they must at all times be ready to apply the *hand-brake* should the engineman call by whistle for its assistance.

4. When the automatic vacuum brake is to be used for the ordinary stoppage of trains it must be by the engine-man opening the air valve on the engine, but it must be done gradually and never suddenly or with full force except in cases of emergency, and care must be exercised to prevent jerking and rebounding of trains.

5. *In approaching junctions, terminal stations, or stations at which other trains may be standing on the same line of rails, or crossing stations on single lines, the automatic vacuum brake or steam brake must only be used in cases of emergency, the engineman taking care to reduce the speed of the train so that the train may be brought to a stand by the hand-brakes alone. Guards must be at their hand-brakes when passing the distant signal for such stations, and must work the hand-brake and assist the driver in making the stop.*

6. In the event of a train parting, the guard in the rear portion must at once apply his hand-brake, and keep it tightly screwed on until the train is again coupled to the engine.

7. In descending inclines, the engineman must, when necessary to reduce the speed, use the automatic vacuum brake in preference to the hand-brakes, and care must be used in applying the automatic brake at any time so that the wheels will not skid.

8. The head guard before giving the signal to start at the commencing of the journey, and at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain and inform the engineman—

1st—That all vehicles throughout the train fitted with the brake, have the flexible pipes properly covered up.

2nd—That the flexible pipe at the rear of the last brake vehicle is properly placed upon the stop plug.

3rd—That 15 inches of vacuum is indicated by the gauge in the rear van, on the train, and,

In the event of there being any vehicles on the train not fitted with the vacuum brake, the head guard must inform the engineman of the fact before starting so that the engineman may know what number of vehicles he has control over, and what number are without the vacuum brake.

9. The engineman before starting at the commencement of the journey, and also at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain from the guard the number of vehicles in the train fitted with the brake, the flexible pipes of which are coupled up to the engine, and that a vacuum of at least 15 inches is shown by the gauge in the rear van. He must also be careful to see—

That the vacuum pipe of his engine is properly coupled up to the leading vehicle in the train.

That at least 15 inches of vacuum is indicated by the gauge on the engine.

10. If from any cause the engineman is unable to obtain at least 15 inches of vacuum, he must inform the guard of the fact, and they must work the train forward with the ordinary hand-brakes.

11. Just before coming to a stand, after the application of the automatic vacuum brake at stations, or when stopped on the road, the engineman must use his ejector so as to partially release the continuous brake. This will prevent any rebound of the carriages and will also enable the engineman to start his train immediately on receipt of the signal to do so.

12. When the pipes between the engine and train are disconnected, the couplings must be placed on the plug stops provided for the purpose. Detached carriages must always have the hose couplings placed on the plug stops.

13. At any station where there is any likelihood of vehicles being put on or taken off, the vacuum in the continuous pipe must be destroyed by opening the air valve on the engine, so that there may be no delay in coupling or uncoupling.

14. As india-rubber is dissolved by oil or grease, it is most important that nothing of a greasy nature should be applied to, or allowed to reach the piston or piston rod. The only lubrication which is required is a little pure blacklead, which must be placed inside each cylinder by the persons appointed for the purpose. The other part of the brake must be cleaned and oiled by the examiners in the usual way.

15. In the case of vehicles fitted with the combined hand and vacuum brake, the guard must see before starting that the hand-brake is screwed "full off," and the handle secured by means of the chain provided for that purpose.

16. It is necessary that the words "continuous brake train" shall be written at the top of the engineman's train bill and guard's report for every train fitted with the automatic vacuum brake. It is also necessary for the engineman to show on his mileage ticket the trains which have been worked by him with a continuous brake during the day.

17. If from any cause the automatic vacuum brake is not used, or fails to act when required, or if there is any irregularity in its working, a remark to that effect must be made by the guard on his report, and by the engineman on his train bill, which must be accompanied by a special report giving full particulars of the irregularity.

18. Guards must take care during the journey that nothing in the van is allowed to rest against or in any way interfere with the lever of the brake setter.

19. When vehicles are supplied with connecting pipes only, they must be considered as vehicles without the brake, but the brake connections must be made as described in clause 2.

20. When vehicles not fitted with a continuous brake or having connecting pipes only, are attached to a train fitted with such brake, or to an engine having the brake on the engine wheels as well as the tender wheels, the guard in the rear van must, immediately upon the continuous or engine brake being applied by the driver, apply his hand-brake, and keep it tightly on, either until the train has come to a stand, or the driver has taken off his brake and is again going forward as the case may be. This arrangement is necessary to prevent the rebound of the carriages and possible breaking of the drawbars which may occur when a powerful brake is applied to the front portion of trains only.

21. The working of the continuous brake by the driver does not relieve the guard of any responsibility; he must keep a good look out and be prepared to apply the hand-brake if necessary.

22. Guards must not depend upon the automatic brake to hold a train on an incline when detached from the engine, but must use their hand-brakes and act as if the train had no automatic brake.

23. To release the brake for shunting after the engine is detached, pull the wire which will be found attached to the frame of the carriage close to the red star; a light pull is sufficient, but the wire must be held for a few seconds till the brakes come off.

24. When handling the couplings, porters, firemen and others must be careful not to have any waste or such like article in their hands, in order to prevent such things getting drawn into the pipes.

Porters and others must be careful not to step on the brake pipes when crossing the buffers.

Shunters, porters and others will render themselves liable to immediate dismissal for tampering with or removing the vacuum brake washers or any other portions of the fittings.

J. D. Nott, Secretary.

Head Offices, Waterford, June, 1893.

WATERFORD AND LIMERICK RAILWAY.

Instructions for working Continuous Automatic Vacuum Brake.

1. In the formation of trains, when the whole of the coaches are not fitted with the automatic vacuum brake, those that are so fitted must be placed together, and next to the engine. When the whole train is not fitted, the automatic vacuum brake must not be used for ordinary stoppages, but only in cases of emergency. In all cases where the automatic vacuum brake is only partially fitted to a train, a brake van, or a carriage, with a guard in it, must be the last passenger vehicle in the train, and this guard must apply his hand brake in running into all stations where the train is to be stopped.

2. The brake can be applied throughout the whole of the vehicles fitted with the apparatus by the engineman from the engine, or by the guard from his van; but in order that this may be done, it is imperative that the flexible connexions between each carriage and between the engine and the train shall be properly coupled up.

3. Guards must never apply the automatic vacuum brake except in cases of absolute necessity, and whenever they do so a full report of the circumstances must be made on their journals; they must at all times be ready to apply the *hand brake* should the engineman call by whistle for its assistance.

4. When the automatic vacuum brake is to be used for the ordinary stoppage of trains, it must be by the engineman opening the air valve on the engine, but it must be done gradually, and never suddenly or with full force, except in cases of emergency.

5. *In approaching junctions, terminal stations, or stations at which other trains may be standing on the same line of rails, or crossing stations on single lines, the automatic vacuum brake or steam brake must only be used in cases of emergency, the enginemen taking care to reduce the speed of the train so that the train may be brought to a stand by the hand brakes alone.*

6. In the event of a train parting, the guard in the rear portion must at once apply his hand brake, and keep it tightly screwed on until the train is again coupled to the engine.

7. In descending inclines the engineman must, when necessary to reduce the speed, use the automatic vacuum brake in preference to the hand brakes.

8. The head guard, before giving the signal to start at the commencement of the journey, and at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain and inform the engineman—

1st. That all vehicles throughout the train fitted with the brakes have the flexible pipes properly coupled up.

2nd. That the flexible pipe at the rear of the last brake vehicle is properly placed upon the stop plug.

3rd. That 15 inches of vacuum is indicated by the gauge in the rear van on the train; and,

In the event of there being any vehicles on the train not fitted with the vacuum brake, the head guard must inform the engineman of the fact before starting, so that the engineman may know what number of vehicles he has control over, and what number are without the vacuum brake.

9. The engineman, before starting at the commencement of the journey, and also at stations where any of the flexible pipes have been coupled or uncoupled, must ascertain from the guard the number of vehicles in the train fitted with the brake the flexible pipes of which are coupled up to the engine, and that a vacuum of at least 15 inches is shown by the gauge in the rear van. He must also be careful to see—

That the vacuum pipe of his engine is properly coupled up to the leading vehicle in the train.

That at least 15 inches of vacuum is indicated by the gauge on the engine.

10. If from any cause the engineman is unable to obtain at least 15 inches of vacuum, he must inform the guard of the fact, and they must work the train forward with the ordinary hand brakes.

11. Just before coming to a stand, after the application of the automatic vacuum brake at stations, or when stopped on the road, the engineman must use his ejector so as to partially release the continuous brake. This will prevent any rebound of the carriages, and will also enable the engineman to start his train immediately on receipt of the signal to do so.

12. When the pipes between the engine and train are disconnected, the couplings must be placed on the plug stops provided for the purpose. Detached carriages must always have the hose couplings placed on the plug stops.

13. At any station where there is any likelihood of vehicles being put on or taken off, the vacuum in the continuous pipe must be destroyed by opening the air valve on the engine, so that there may be no delay in coupling or uncoupling.

14. As india-rubber is dissolved by oil or grease, it is most important that nothing of a greasy nature should be applied to or allowed to reach the piston or piston rod. The only lubrication which is required is a little pure blacklead, which must be placed inside each cylinder by the persons appointed for the purpose. The other part of the brake must be cleaned and oiled by the examiners in the usual way.

15. In the case of vehicles fitted with the combined hand and vacuum brake, the guard must see before starting that the hand brake is screwed "full off," and the handle secured by means of the chain provided for that purpose.

16. It is necessary that the words "continuous brake train" shall be written at the top of the engineman's train bill and guard's report for every train fitted with the automatic vacuum brake. It is also necessary for the engineman to show on his mileage ticket the trains which have been worked by him with a continuous brake during the week.

17. If from any cause the automatic vacuum brake is not used, or fails to act when required, or if there is any irregularity in its working, a remark to that effect must be made by the guard on his report, and by the engineman on his train bill, which must be accompanied by a special report giving full particulars of the irregularity.

18. Guards must take care during the journey that nothing in the van is allowed to rest against or in any way interfere with the lever of the brake setter.

19. When vehicles are supplied with connecting pipes only, they must be considered as vehicles without the brake, but the brake connexions must be made as described in clause 2.

20. When vehicles not fitted with a continuous brake, or having connecting pipes only, are attached to a train fitted with such brake, or to an engine having the brake on the engine wheels as well as the tender wheels, the guard in the rear van must, imme-

diately upon the continuous or engine brake being applied by the driver, apply his hand brake, and keep it tightly on, either until the train has come to a stand, or the driver has taken off his brake, and is again going forward, as the case may be. This arrangement is necessary to prevent the rebound of the carriages and possible breaking of the drawbars which may occur when a powerful brake is applied to the front portion of trains only.

JOHN ROBERTS,
Traffic Manager.

JOHN G. ROBINSON,
Locomotive and Carriage Superintendent.

July, 1889.

3.—CIRCULAR of BOARD OF TRADE to RAILWAY COMPANIES.

Board of Trade, Railway Department,
SIR, 30th August 1877.

I AM directed by the Board of Trade to request that you will call the attention of the Directors of your Company to the paper which has recently been laid before Parliament, containing the correspondence that has taken place between the Board of Trade and the Railway Association relative to the use of continuous brakes, and to state that this Department have been giving further careful consideration to this important question, as will be seen by a reference to the General Report upon Railway Accidents for the year 1876 recently presented to Parliament.

In that Report will be found the details of the circumstances attending all the accidents which have been investigated by the officers of the Board of Trade during the past year; from a careful examination of which and similar information for the past few years the Board of Trade are led to conclude that three fourths of those accidents might probably have been avoided, or the results materially mitigated, if the passenger trains concerned had been provided with continuous brakes.

In Mr. Lecman's letter of the 18th April, forming part of the correspondence above referred to, it is stated that it is "not essential that one form of brake should be invariably adopted." If by this it is meant that it is desirable to try every form of brake, and that it is not desirable by the exclusive adoption of one form to prevent the trial and introduction of better forms, the Board of Trade would entirely concur. But if it is meant that there would be no advantage in having one form of brake for all lines which interchange traffic with one another, the Board of Trade hold a different opinion; for it appears to them obvious that in the interchange of rolling stock, including ordinary carriages, saloon and family carriages, horse boxes, carriage and fish trucks, and other vehicles forming part of passenger trains, between one line and another, if the brake fittings are not similar, the efficiency of the brakes must be proportionately impaired and that this must be especially the case where the lines of two or more companies are continuous.

The London and North-western, the Great Northern, and the Midland Companies all run through-trains to Scotland, which are forwarded over the Caledonian, North-eastern, North British, Glasgow and South-western, and Highland Railways. It is therefore obvious that the advantage to be derived from any continuous brake system in use on any of these lines will be diminished and neutralized if at such stations as Carlisle, Glasgow, York, Edinburgh, Perth, and Inverness the traffic is so arranged that carriages with one system of brakes are attached to trains containing carriages fitted with a different system. This evil can only be avoided if those companies which interchange traffic with one another adopt one and the same general system.

The Board of Trade therefore regret to observe from the returns forwarded, in the correspondence above alluded to not only that there is no immediate prospect of the adoption of any such general system even by companies owning continuous lines, but that many of the companies are not taking, and apparently refuse to take, any steps towards that end.

Referring to the merits of the different brakes now in use, or under experiment, as stated in the answers to the questions put by the Board of Trade, it is to be remarked that the statements of the different companies vary considerably, and are scarcely consistent with each other.

Thus the London and North-western Company express themselves satisfied with a mechanical continuous brake, which is reserved for cases of emergency, and which can only be applied throughout the train by the engine-drivers or guards through the intervention of a communication-cord.

No other great company appears to have even tried this brake. On the other hand, many companies speak in the highest terms of air or vacuum brakes, which are rejected in toto by the London and North-western Company. The Great Northern Company have adopted a vacuum brake, which is highly thought of, and which it is stated can be made self-acting, but which, so far as can be learned from the correspondence, does not at present possess that quality. The Midland, North-eastern, North British, and some other companies are stated to have tried or adopted brakes which are self-acting. On the other hand, the Manchester, Sheffield, and Lincolnshire Company seem to think that new elements of danger are produced by the practical operation of continuous brakes, though they do not say what those dangers are. It would be easy, but is scarcely necessary, to dwell at greater length on the different and even discordant views disclosed in the answers of the different companies.

Under these circumstances the Board of Trade whilst recognizing the efforts which some of the companies are making in testing or adopting improved systems of brakes, cannot regard the state of things shown by these papers as satisfactory, inasmuch as it indicates a diversity of opinion and action and in some cases an absence of progress, which, if allowed to continue, will be most injurious to the character of the companies and to the interests of the public. There has apparently been no attempt on the part of the various companies to take the first step of agreeing upon what are the requirements which in their opinion are essential to a good continuous brake.

In the opinion of the Board of Trade these conditions should be as follows:—

a. The brakes to be efficient in stopping trains, instantaneous in their action, and capable of being applied without difficulty by engine-drivers or guards.

b. In case of accident to be instantaneously self-acting.

c. The brakes to be put on and taken off (with facility) on the engine and every vehicle of a train.

d. The brakes to be regularly used in daily working.

e. The materials employed to be of a durable character, so as to be easily maintained and kept in order.

The inquiries and experiments instituted by the Royal Commission on Railway Accidents, and the recent researches into the causes of railway accidents during the last few years, appear to the Board of Trade to leave no doubt as to the importance of the above conditions, and the experience which has been obtained by the companies appears sufficient to enable them to come to some general and unanimous conclusion.

There can, therefore, be no reason for further delay, and the Board of Trade feel it their duty again to urge upon the railway companies the necessity for arriving at an immediate decision and united action in the matter.

The companies and their officers, who are as much interested as the public in the safe and efficient working of their railways, and upon whom devolves the adoption of proper systems of brake and of such other improvements as have been proved by past experience to be necessary in the interest of public safety, would do well to reflect that if a doubt should arise that from a conflict of interest or opinion, or from any other cause, they are not exerting themselves, it is obvious that they will call down upon themselves an interference which the Board of Trade, no less than the companies, desire to avoid.

In conclusion I am to call your attention to a notice which has already been given in Parliament for next session, for copies of any further correspondence between the Board of Trade and the Railway Companies with reference to the progress made in brake power; and in order that the Board of Trade may be in a position to furnish that information to Parliament, I am to request that the companies will from time to time furnish the Board with full accounts of any further experiments they may make, and of any steps which they may take for the adoption or extension of improved systems of brakes.

I am, &c.

The Secretary, EDWARD STANHOPE.

Railway Company.

4.—Copy of Act.

(41 Vict. Chapter 20.)

A.D. 1878.

An Act to provide for returns respecting Continuous Brakes in use on Passenger Trains on Railways. [17th June 1878.]

Be it enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:

Short title.

1. This Act may be cited as the Railway Returns (Continuous Brakes) Act, 1878.

Returns to be made twice a year by railway companies to Board of Trade respecting continuous brake.

2. Every railway company shall twice in every year make to the Board of Trade returns respecting the use of continuous brakes on the passenger trains running on the railways worked by such company.

The returns shall contain the particulars and be in the form specified in the schedule to this Act, or shall contain such other particulars and be in such other form as the Board of Trade from time to time prescribe; and the Board of Trade may in any case dispense with any part of the returns where they deem the same inapplicable.

The returns shall be made for the six months ending on the last day of December and the last day of June in every year, or on such other days as the Board of Trade from time to time direct, and shall be made within fourteen days after the expiration of each six months.

Every return shall be signed by the officer of the company responsible for the correctness of the return, and by the chairman or deputy chairman of the directors of the company, or where there are no directors by the individual or one of the individuals bound to make the return.

Any railway company who fail to comply with this section shall be liable on summary conviction before a court of summary jurisdiction to a fine not exceeding five pounds for every day during which the default continues.

Any person who makes or is privy to the making of a return under this Act which is to his knowledge false in any particular shall be liable on summary conviction before a court of summary jurisdiction to a fine not exceeding fifty pounds.

34 & 35 Vict. c. 78.

Expressions in this Act have the same meaning as they have in the Regulation of Railways Act, 1871.

SCHEDULE.

Forms of Return (as amended by Board of Trade).

Return for the Six Months ending on the day of 18 of the Amount and Description of Continuous Brake Power in use on the Passenger Trains running on the railways worked by the Railway Company.

Name of Railway Company.	Name and Description of Brake or Brakes adopted by the Company and in use on Passenger Trains on Lines worked by them.	(1.) Whether the brakes are instantaneous in action and capable of being applied by engine-driver and guards. (2.) Whether self-acting. (3.) Whether capable of being applied to every vehicle of a train. (4.) Whether in regular use in daily working. (5.) Whether the materials employed are of a durable character, easily maintained and kept in order. (6.) Whether the brakes are used for every stoppage.	Amount of Stock fitted with Continuous Brakes.						Amount of Stock NOT fitted with Continuous Brakes.		Amount of Stock fitted during the above Six Months.				Special Rules under which the Continuous Brakes are worked.
			Number of Engines and Tenders (used for Passenger Trains) in which the Continuous Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Vehicles. Passenger Carriages. Fitted with Brake Gear complete.	Passenger Carriages. Fitted only with Chains or Pipes and Connections for connecting the Brake.	Other Vehicles used for Passenger Trains. Fitted with Brake Gear complete.	Other Vehicles used for Passenger Trains. Fitted only with Chains or Pipes and Connections for connecting the Brake.	Number of Engines and Tenders used for Passenger Trains.	Number of Passenger Carriages and other Vehicles used for Passenger Train	Number of Engines and Tenders (used for Passenger Trains) in which the Brakes can be applied to the Wheels.	Number of Engines and Tenders (used for Passenger Trains) fitted only with Apparatus for applying the Brake.	Number of Passenger Carriages and other Vehicles used for Passenger Trains. Fitted with Brake Gear complete.	Number of Passenger Carriages and other Vehicles used for Passenger Trains. Fitted only with Chains or Pipes and Connections for connecting the Brake.	
	(Each description of Continuous Brake to be given.)	*(Replies to these questions to be given for each description of Brake, and also state whether the Brakes are used for every stoppage.)*	*(The amount of stock fitted with each description of Brake to be given.)*								*(The amount of stock for each description of Brake to be given.)*				

No. 2.—Return for the Six Months ending on the day of 18 of all instances in which Continuous Brakes have failed to act when required to be brought into action, or have caused delay in the working of the trains on any railway worked by the Railway Company.

1. Name of Railway Company.	2. Name or description of Brake which failed or caused delay in any of the instances asked for in Column 4.	3. Date of Failure.	4. Instances under the three following heads separately of:— 1. Failure or partial failure to act when required in case of an accident to a train, or a collision between trains being imminent. 2. Failure or partial failure to act under ordinary circumstances to stop a train when required. 3. Delay in the working of trains in consequence of defects in, or improper action of, the brakes, distinguishing whether they arose from neglect or inexperience of servants or failure of machinery or material.	5. Number of Miles run by Trains fitted with each description of Continuous Brake.

No. 3.—Return for the Six Months ending on the day of 18 of the Number of Miles run by Passenger Trains not fitted with Continuous Brakes on any railway worked by the Railway Company.

Name of Railway Company.	Name of Railway worked by Company on which Passenger Train ran without Continuous Brake.	Number of Miles run by Passenger Trains without Continuous Brakes.

RAILWAY, &c. BILLS.

RETURN to an Order of the Honourable The House of Commons, dated 7 February 1893;—*for*,

REPORT

BY THE BOARD OF TRADE

UPON ALL THE

RAILWAY, CANAL, TRAMWAY, GAS, AND WATER BILLS AND PROVISIONAL ORDERS

OF

SESSION 1893.

(*Mr. Burt.*)

Ordered, by The House of Commons, *to be Printed*, 7 *February* 1893.

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REPORT OF THE BOARD OF TRADE ON THE RAILWAY, CANAL, TRAMWAY, GAS, WATER BILLS, AND PROVISIONAL ORDERS, 1893.

THE total number of Bills deposited for the Session of 1893, relating to RAILWAYS, CANALS, TRAMWAYS, and the Supply of GAS and WATER, is 134, as compared with 163 of the Session of 1892; the total amount of money proposed to be raised is 30,068,670 *l.*, as compared with 56,363,061 *l.*, a decrease of 26,294,391 *l.*

RAILWAYS AND CANALS.

The Bills which relate to RAILWAYS and CANALS amount to 80, of which 51 propose to authorise the Construction of New Railways or Additional Railway Works.

	Number of Bills.	Length of New Line.	Proposed Capital.		
			By Shares.	By Loan.	Total.
I. PROMOTED BY EXISTING COMPANIES:		*Miles.*	£.	£.	£.
ENGLAND	56	95	7,820,000	8,597,666	16,417,666
SCOTLAND	7	43	1,960,000	653,232	2,613,232
IRELAND	4	6	—	46,000	46,000
TOTAL	67	144	9,780,000	9,296,898	19,076,898
II. PROMOTED BY NEW COMPANIES:					
ENGLAND	10	43	3,566,000	1,500,266	5,066,266
SCOTLAND	3	71	631,000	155,300	786,300
IRELAND	—	—	—	—	—
TOTAL	13	114	4,197,000	1,655,566	5,852,566
TOTAL for RAILWAYS and CANALS	80	258	13,977,000	10,952,464	24,929,464

TRAMWAYS, &c.

The Number of Bills which relate to TRAMWAYS, &c., amounts to 18.

ENGLAND	11	23	140,000	72,400	212,400
SCOTLAND	5	9	—	260,000	260,000
IRELAND	2	—	150,000	30,000	180,000
TOTAL for TRAMWAYS, &c.	18	32	290,000	362,400	652,400

GAS AND ELECTRIC LIGHTING.

The Number of Bills which relate to the Supply of GAS amounts to 15.*

ENGLAND	14	—	880,000	677,740	1,557,740
SCOTLAND	1	—	—	90,000	90,000
IRELAND	—	—	—	—	—
TOTAL for GAS	15	—	880,000	767,740	1,647,740

WATER.

The Number of Bills which relate to the Supply of WATER amounts to 21.

ENGLAND	17	—	670,400	1,173,666	1,844,066
SCOTLAND	2	—	—	—	—
IRELAND	2	—	—	995,000	995,000
TOTAL for WATER	21	—	670,400	2,168,666	2,839,066
GENERAL TOTAL for RAILWAYS, CANALS, TRAMWAYS, SUBWAYS, GAS, and WATER	134	Railway 258; Tramway 32	15,817,400	14,251,270	30,068,670

* Provisions relating to the Supply of Water are contained in five of these Bills, one of which refers also to Tramways.

PROVISIONAL ORDERS.

THE Number of Applications made to the Board of Trade for Provisional Orders relating to TRAMWAYS, the Supply of GAS and WATER, and ELECTRIC LIGHTING, amounts to 40.

	NUMBER OF APPLICATIONS.	PROPOSED CAPITAL (ESTIMATE).	LENGTH OF ROAD FOR WHICH TRAMWAY IS PROPOSED.	REMARKS.
		£.		
ENGLAND AND WALES AND SCOTLAND:				
TRAMWAYS - - - - - -	7	*173,121	(double line) 14 m. 9 chs. (single line) 8 m. 69 chs.	*Estimate of expense of construction.
GAS - - - - - - - -	8	296,271	—	
WATER - - - - - - -	7	153,750	—	
TOTAL, GAS and WATER - - -	15	450,021	—	
ENGLAND, SCOTLAND, AND IRELAND.				
ELECTRIC LIGHTING - - -	18	756,350	—	
GENERAL TOTAL for TRAMWAYS, GAS and WATER, and ELECTRIC LIGHTING Provisional Orders -	40	1,379,492	(double line) 14 m. 9 chs. (single line) 8 m. 69 chs.	

RAILWAY AND CANAL BILLS.

The Bills of existing companies number 67; the new lines proposed show a length of 144 miles, as against 304 miles in Session 1892, and the amount of new capital proposed to be raised is 19,076,898 *l.*, against 26,490,611 *l.*

The Bills of new railway companies number 13, as compared with 20 of last Session; the new lines proposed show a length of 114 miles, as compared with 146 miles, and the amount of capital proposed to be raised is 5,852,566 *l.*, as compared with 19,640,800 *l.* This new capital includes above five millions, proposed to be raised by Loan for the completion of the Manchester Ship Canal, under Bills proposed by the Company and the Manchester, Oldham, and Salford Corporations.

Together the existing and new railway companies' Bills number 80, as compared with 106, the length of new lines 258 miles, as compared with 450 miles, a decrease of 192 miles, and the amount of capital to be raised 24,929,464 *l.*, as compared with 46,131,411 *l.*, a decrease of 21,201,947 *l.*

On page 40 is a list of Bills upon which Reports are required to be made by the Board of Trade with regard to tolls, rates, and charges, under Standing Order 145*a* of the House of Commons.

In seven of the Bills which incorporate railway companies the maximum rates and charges for the conveyance of merchandise are proposed to be fixed by reference to one of the Railway Rates and Charges Order Confirmation Acts recently passed by Parliament, but in two Bills the method hitherto followed of specifying the proposed maximum rates and charges has been adhered to, and in these cases it will be necessary to make the Railway and Canal Traffic Act, 1888, applicable in the manner provided by Standing Orders 166*a* of the House of Commons, and 123*a* of the House of Lords, unless the Committees to which the Bills are ultimately referred decide to fix the maximum rates and charges by reference to one of the Railway Rates and Charges Order Confirmation Acts, or by schedule to each of the Bills.

The Board of Trade, however, think it desirable to point out that the procedure prescribed by Section 24 of the Railway and Canal Traffic Act, 1888, is now hardly appropriate to the case of a new Company, or of a Company whose railway has not yet been constructed and opened for public traffic. The Board of Trade therefore suggest for consideration the desirability of amending the Standing Orders so as to require the insertion in Bills incorporating new Railway Companies and Bills promoted by Companies whose maximum powers have not yet been revised under Section 24 of the Railway and Canal Traffic Act, 1888, of a clause applying to the Company the provisions of such one of the Railway Rates and Charges Order Confirmation Acts as the Committee on the Bill having regard to the locality and connections of the railway may consider most suitable.

Among Bills for underground Railways in the Metropolis are the Bill for the *Clapham Junction and Paddington Railway* from Battersea to Paddington, a length of 4 miles 12 chains, to be worked by electricity or cable power; and the Bill for the *Edgware-road and Victoria Railway*, 4 miles 50 chains in length, from Kilburn under the Edgware-road to Victoria Station, Pimlico.

An important proposal is that provided for in the *London Chatham and Dover and South Eastern Railway Companies' Bill* and the *South Eastern Railway Bill*, the former of which proposes to amalgamate the two Companies under the title of the South Eastern Railway Company, and the latter to incorporate a Joint Board of Management for the working of the two Railways as one undertaking.

The South Eastern Railway Bill also contains a provision for the establishment of a Joint Committee of the Company, the Metropolitan, and the Manchester, Sheffield, and Lincolnshire Railway Companies for working through traffic.

The following Bills refer to Navigations or Canals, namely:—

The Aire and Calder Navigation Bill amends the Acts relating to the Barnsley Canal of the Undertakers of the navigation of the Rivers Aire and Calder in respect to minerals under or near that canal, and authorises the closing of the upper portion of such canal.

The Birmingham Canal Bill empowers the Company of Proprietors of the Birmingham Canal Navigation to make and maintain certain new canals and other works; to raise additional capital; and to effect other purposes. (Guarantee by London and North Western Railway Company.)

The Bills relating to the Manchester Ship Canal, provide for the raising of additional capital to complete the Undertaking by means of Loans from the Manchester, Oldham, and Salford Corporations.

In four Bills the companies apply for authority to abandon the whole of their authorised railways, namely:—

Brighton, Rottingdean, and Newhaven Direct Railway.

Guiseley, Yeadon and Headingley Railway.

Metropolitan Outer Circle Railway.

Towcester and Buckingham Railway.

The Bills that seek authority for the amalgamation or absorption by sale, lease, or transfer of the undertakings of certain other companies will be found at page 39.

PROPOSED NEW RAILWAYS AND CANALS.

These may be summarised as follows:—

In England and Wales.

(*a.*) London and the Suburbs.

The Clapham Junction and Paddington Railway Bill incorporates a Company with power to make an underground railway, 4 miles 12 chains in length, in two tunnels, to be worked by cable power or electricity, together with a subway for foot passengers from the Royal Albert Hall to the Exhibition-road.

The Edgware Road and Victoria Railway Bill incorporates a Company for the making of an underground railway, in two tunnels (with subways), from Kilburn along the Edgware-road to Victoria Station, Pimlico, 4 miles 50 chains in length; to be worked by cable, traction, electricity, or other motive power (not being steam).

The London and South Western Railway Company's Bill empowers the Company to widen their railway at Waterloo for a distance of 1¼ chains.

The Metropolitan District Railway Bill extends the time limited for the completion of the Acton Junction Railway, provides for the abandonment of the West Brompton Junction Railway, empowers the Company to enter into agreements with the Metropolitan Railway Company, and makes provision as to trains for the labouring classes at low fares.

(*b.*) Other Districts.

The Birmingham Canal Bill empowers the Canal Company to make certain new canals near Oldbury, and other works, in all amounting to a length of 1 mile and 30 chains.

The Brighton and Rottingdean Seashore Electric Railway Bill incorporates a Company for the construction of a railway on the foreshore from Brighton to the village of Rottingdean, a length of 2 miles 74 chains.

The

The Bristol Corporation Bill empowers the Corporation to construct an additional dock, railways, and other works, 3 miles 38 chains in length, with a deviation 1 mile 74 chains.

The Broomhill and Amble Railway Bill incorporates a Company for making a railway in Northumberland, in connection with the North Eastern Railway, terminating at Broomhill Quay, in Warkworth Harbour, 3 miles 68 chains in length.

The Channel Bridge and Railway Company (Limited) Bill empowers the Company to carry on experimental works and operations in relation to the making of a bridge or viaduct over the English Channel, as a means of communication, by steam locomotion or otherwise, between England and France.

The Chipstead Railway Bill incorporates a Company for making a railway in the county of Surrey, from Walton-on-the-Hill to Purley, a length of 7 miles 38 chains.

The Durham Coast Railway Bill incorporates a Company for making a railway from West Hartlepool to Seaham Harbour, in the county of Durham, 13 miles 4 chains in length.

The Fishguard Bay Railway and Pier Bill incorporates a Company for the construction of a railway, 74 chains in length, with a pier and breakwater in connection at Fishguard Bay, Pembroke.

The Great Eastern Railway (General Powers) Bill empowers the Company to construct certain short railways, together 9 miles and 65 chains in length, in the counties of Essex and Suffolk, and to widen and improve their lines in the counties of Norfolk, Huntingdon, Hertford, Suffolk, and Essex, to improve Lowestoft Harbour, and to effect other purposes.

The Great Eastern Railway (New Line and Improvements at Cambridge, &c.) Bill empowers the Company to construct a new railway for connecting their Cambridge and Ely line with the Newmarket Branch Railway, and to widen the line at and improve Cambridge Station. Total length of line 2 miles 8 chains.

The Great Northern Railway Bill empowers the Company to construct certain railways in Nottingham and Derbyshire, and, jointly with the Midland Railway Company, to widen portions of the Bourn and Lynn Joint Line. Length of railways 6 miles 43 chains.

The Hunslet Railway Bill incorporates a Company for the making of a railway, 4 miles 42 chains in length, from the West Yorkshire Line of the Great Northern Railway to Leeds and Hunslet, together with a bridge over the River Aire between Leeds and Hunslet.

The Lancashire and Yorkshire Railway Bill empowers the Company to make new railways (3 miles 51 chains) in connection with the Clayton West Branch, and to widen that branch for a length of 3 miles 37 chains.

The Lancashire, Derbyshire, and East Coast Railway Bill empowers the Company to divert certain portions of their authorised railways, and to make a new railway, 7 miles 75 chains in length, and other works in the county of Derby.

The London and North Western Railway Bill empowers the Company to construct certain short lines, and a deviation and widening of existing railways (4 miles 44 chains).

The London and North Western and Great Western Railway Companies Bill empowers the two Companies to widen portions of their existing railways, viz., the Chester and Holyhead and portion of the Birkenhead Railway (13 miles and 77 chains).

The London and South Western Railway Bill empowers the Company to construct a new graving dock and other works at Southampton, and to widen their line at Waterloo Station for one and a-half chains.

The Manchester, Sheffield, and Lincolnshire Railway Bill empowers the Company to make certain short railways in the county of Derby and elsewhere (11 miles 21 chains).

The Midland Railway Bill authorises the Company to make the Wharncliffe Branch in connection with the New Gloucester Dock Branch, and certain widenings, 6 miles 41 chains in length.

The North Eastern Railway Bill authorises the Company to make certain new railways (and widenings) in connection with the Blyth and Tyne Railway, the Port Clarence Railway, and York and Normanton, and Leeds and Selby Line (7 miles 44 chains).

The North Salop Railway Bill incorporates a Company, and provides for the transfer to it of certain powers of the Shropshire Railway Company, and authorises the construction of additional railways (1 mile 16 chains).

The Rhondda and Swansea Bay Railway Bill authorises the Company to construct extension lines in the county of Glamorgan, 6 miles 85 chains in length.

The Scarborough, Bridlington, and West Riding Junction Railways (New Lines) Bill empowers the Company to construct certain new lines in the East Riding of York, 10 miles in length.

The South Eastern Railway Bill empowers the Company to construct a tramway in connection with the Folkestone, Sandgate, and Hythe Tramway (5 miles in length), and to acquire the undertaking of the Tramway Company.

The Sutton, Rotherham, and Barnsley Railway (Additional Powers) Bill authorises the making by the Company of certain railways (2 miles 58 chains in length) in the West Riding of York in connection with existing lines.

The Tranmere Dock and Railway Bill incorporates a company for making a dock at Lower Tranmere, Birkenhead, and a junction railway, 27 chains in length.

In Scotland.

The Aberlady, Gullane, and North Berwick Railway Bill incorporates a Company for the making of a railway (7 miles 33 chains in length) from a junction with the North British Railway at Aberlady, to Dirleton.

The Brechin and Edzell District Railway Bill authorises the Company to make new and substituted railways in connection with the Brechin Branch of the Caledonian Railway, 2 miles 47 chains in length.

The Caledonian Railway Bill authorises the Company to widen their Dalmarnock Branch (26 chains in length).

The East Fife Central Railway Bill incorporates a Company for making certain railways in the county of Fife in connection with the Leven Branch of the North British Railway and the Anstruther and St. Andrews Railway (a length of 26 miles 20 chains).

The Glasgow and South Western Railway Bill empowers the Company to construct a junction line from near Kilbride to Delsy, 9 miles 11 chains in length.

The Glasgow, Yoker, and Clydebank Railway Bill empowers the Company to extend their line to Dalmuir, a distance of 4 miles 70 chains.

The Great North of Scotland Railway (Various Powers) Bill authorises the Company to extend their railway from a junction with the Formartine and Buchan line to Peterhead, 15 miles 20 chains, and to make a widening on the Deeside Railway.

The Highland Railway Bill authorises the Company to make an extension line from Strome Ferry to Kyle of Lochalsh, in the county of Ross and Cromarty, 10 miles 37 chains.

The Loch Maree and Aultbea Railway Bill incorporates a Company for making certain lines in the county of Ross and Cromarty from the Dingwall and Skye Section of the Highland Railway at Auchnasheen to Aultbea, 37 miles 10 chains.

The North British Railway Bill authorises the construction of a junction between the Edinburgh and Glasgow, and Monkland and Kirkintilloch lines, 1 mile 7 chains.

In Ireland.

The Belfast Water Bill authorises the construction, for the purposes of the undertaking, of certain short railways 4 miles 78 chains in length.

The Donegal Railway Bill authorises the Company to extend their railways to Strabane (76 chains).

The Waterford and Limerick Railway Bill authorises the Company to make a short railway, 10 chains in length, in connection with the line from Swinford to Claremorris.

TRAMWAY BILLS.

Eighteen Bills relate to Tramways, and propose the construction of 32 miles of Tramway, and the raising sums of money amounting in the aggregate to 652,400 *l.* As compared with 1892, the number of Bills shows an increase of four, and the capital proposed a decrease of 131,350 *l.*

Eleven of these Bills relate to Tramways in England, five to Tramways in Scotland, and two to Tramways in Ireland.

An Analysis of these Tramway Bills will be found at page 19.

GAS AND WATER BILLS.

Of these Bills, 36 in number, 10 relate to the supply of Gas, five to the supply of Gas and Water, and 21 to the supply of Water only.

The total capital proposed to be raised by these 34 Bills amounts to 4,487,806 *l.*, or 4,960,094 *l.* less than in 1892.

The Analysis of the Gas and Water Bills will be found at pages 22 to 27.

ANALYSIS OF BILLS.

RAILWAY AND CANAL BILLS.

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Proposed New Capital.		Length of Proposed Railway.
			By Shares.	By Loan.	
			£.	£.	M. CHS.
Aberlady, Gullane, and North Berwick Railway.	35	To incorporate a Company for the construction of a railway in the county of Haddington, commencing by a junction with the North British Railway in the parish of Aberlady and terminating by a junction with the same Railway in the parish of Dirleton.	66,000	22,000	7 33
Aire and Calder Navigation.	34	To amend the Acts relating to the Barnsley Canal of the undertakers of the navigation of the Rivers Aire and Calder in respect to minerals under or near that canal; to authorise the closing of the upper portion of such canal; and for other purposes.	—	—	—
Barry Railway - -	35	To authorise the Barry Railway Company to construct a new dock, new railways, tramways, and other works, to stop up parts of certain roads and acquire additional lands. (*See* also Tramway Bills.)	480,000	160,000	3 56
Belfast Water - -	35 37	To construct for the purposes of their undertaking certain short railways, a reservoir, roads, and other works, and provide an additional water supply; and for other purposes. (*See* also Water Bills.)	*See* Water Bills -		4 78
Bexley Heath Railway -	33	To extend the time limited for the compulsory purchase of land and completion of railway and works; and other purposes.	—	—	—
Birmingham Canal - -	34	To empower the Company of Proprietors of the Birmingham Canal Navigation to make and maintain certain new canals and other works; to raise additional capital; and for other purposes. (Guarantee by London and North Western Railway Company.)	80,000	20,000	Canal 1 30
Brean Down Harbour and Railway.	33	To extend the time limited for the completion of the railway and pier authorised by the Company's Act, 1889; and to provide for release of deposit fund.	—	—	—
Brechin and Edzell District Railway.	35	To authorise the Company to make new and substituted railways in connection with the Brechin Branch of the Caledonian Railway and the Forfar and Brechin Railway, abandon portions of their authorised railway, to extend time limited for completion of works, raise additional capital, to attach preference to part of authorised capital; and for other purposes.	5,000	1,666	2 47
Brighton and Rottingdean Sea-shore Electric Railway.	33	To incorporate a Company for the construction of a railway on the foreshore commencing in the parish of Brighton, near Parton-place Groyne, and terminating 100 yards from the Cliff at the village of Rottingdean, with a jetty or landing stage; to be worked by electricity or mechanical power.	15,000	5,000	2 74

RAILWAY AND CANAL BILLS—*continued.*

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Proposed New Capital.		Length of Proposed Railway.
			By Shares.	By Loan.	
			£.	£.	M. CHS.
Brighton, Rottingdean, and Newhaven Direct Railway (Abandonment).	33	To authorise the abandonment of the railways and works under the Company's Acts of 1886 and 1887, the repayment of deposit fund, and the winding-up of Company.	—	—	—
Brighton, Rottingdean, and Newhaven Direct Railway (Extension of Time).	33	To revive and extend the compulsory powers and the period for completion of the railways authorised by the Company's Acts of 1886 and 1887.	—	—	—
Bristol Corporation -	33	To empower the Corporation of the City of Bristol to construct an additional dock, railways, and other works, and to authorise the Great Western Railway Company to raise additional capital for railways they may construct; and for other purposes.	100,000	33,000	3 38 Deviation, 1 74
Broomhill and Amble Railway.	33	To incorporate a company with power to make a railway in the county of Northumberland, commencing near the Broomhill Station of the Amble Branch of the North Eastern Railway, and terminating at Broomhill Quay, in Warkworth Harbour.	66,000	22,000	68
Caledonian Railway - -	35 39	To authorise Company to widen their Dalmarnock Branch, acquire lands in Glasgow, abandon the Mid-Calder Branch, amalgamate with the Greenock and Wemyss Bay Railway Company, to stop up the Forth and Cart Junction Canal, sanction Earnock Branch (already constructed), to raise additional capital; and for other purposes.	915,000	305,000	Widening 0 26
Channel Bridge and Railway Company, Limited.	33	To authorise the Limited Company to execute and carry on experimental works and operations in relation to the making of a Bridge or Viaduct over the English Channel, as a means of communication, by steam locomotion or otherwise, between England and France, and for authorising arrangements between the Company and Governments, Railway Companies and Bodies; and for other purposes.	—	—	—
Cheadle Railway Mineral and Land Company, Limited.	34	To extend the time for completion of the railway authorised by the Company's Act, 1888.	—	—	—
Cheshire Lines Committee	34	To confer further powers upon the Cheshire Lines Committee to acquire lands for the general purposes of their undertaking, and to make further provision for the holding and disposing of lands belonging to the Sheffield and Midland Railway Companies' Committee.	—	—	—
Chipstead Valley Railway	33	To incorporate a company for making certain railways in the Parish of Coulsdon, in the County of Surrey, from Walton-on-the-Hill to Purley, to run over and use the Epsom Downs Extension Railway and parts of the London, Brighton, and South Coast Railway, and the South Eastern Railway, and enter into traffic arrangements with those Companies; and for other purposes.	175,000	70,000	7 38
City and South London Railway (Extension of Time).	32	To extend the time for the completion of the Subway or Underground Railway authorised by the Company's Act, 1890.	—	—	—
Clapham Junction and Paddington Railway.	32	To incorporate a Company for making an underground railway in two tunnels, to be worked by cable power or electricity, or other power (not being steam locomotives), commencing in the parish of St. Mary, Battersea, and terminating at Paddington, at or near Bishop's-road Bridge, with a Subway for foot passengers, &c., from the Royal Albert Hall to the Exhibition-road.	150,000	350,000	4 12

RAILWAY AND CANAL BILLS—*continued.*

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Proposed New Capital.		Length of Proposed Railway.
			By Shares.	By Loan.	
			£.	£.	M. CHS.
Cleveland Extension Mineral Railway.	33	To revive and extend Company's powers under their Acts for certain railways in the North Riding of the county of York; to provide for release of deposit fund; and for other purposes.	—	—	—
Cork and Fermoy and Waterford and Wexford Railway.	35	To authorise the abandonment of the Waterford and Wexford section of the undertaking authorised by the Cork and Fermoy and Waterford and Wexford Railway Act, 1890, for reduction of capital and borrowing powers, and providing for release of portion of deposit money.	—	—	—
Costa Rica Railway Company, Limited.	—	To authorise the Company to borrow further moneys, and to make provision in reference thereto; and for other purposes.	—	100,000	—
Derry City and County Railway.	35 39	To confer further powers on the Company to cross on the level and divert certain roads; for the transfer to the Company of the undertaking of the Draperstown Railway Company, applying their funds for purposes of Act; and for other purposes.	Any additional sums required.		—
Donegal Railway - -	35	To authorise the Company to extend their railways to Strabane; to alter gauge; to enter into working agreements with the Great Northern Railways Company (Ireland); and for other purposes.	—	16,000	0 66
Durham Coast Railway -	33	To incorporate a Company for making a railway from West Hartlepool to Seaham Harbour, in the county of Durham; and for other purposes.	330,000	110,000	13 4
East Fife Central Railway	35	To incorporate a Company for making certain railways in the county of Fife, in connection with the Leven Branch of the North British Railway, and the Anstruther and St. Andrew's Railway; to empower Company to enter into working agreements with the North British Railway Company; and for other purposes.	250,000	83,300	26 20
East London Water	32 37	To empower the Company, *inter alia*, to lay down and maintain a line, or lines, of rails over that part of the footpath in the parish of Low Leyton, Essex, leading from Lea Bridge-road, across the Cambridge line of the Great Eastern Railway.	—	—	—
Edgware-road and Victoria Railway.	32	To incorporate a Company for the making of underground railways, in two tunnels approached by means of stairs and lifts (and subways), from Kilburn under the Edgware-road to Victoria Station, Pimlico; to be worked by cable, traction, electricity, or other motive power (not being steam locomotives); and for other purposes.	1,200,000	400,000	4 50
Fishguard Bay Railway and Pier.	35	To incorporate a Company for the construction of a railway, with a pier and breakwater in connection, at Fishguard Bay, in the county of Pembroke; to commence by a junction with the Fishguard section of the North Pembrokeshire and Fishguard Railway, and terminating on the western side of Fishguard Bay; and for other purposes.	120,000	40,000	0 74
Glasgow and South Western Railway.	35	To confer further powers on the Company for the construction of a junction railway from near Kilbride to Delsy; the acquisition of lands and the raising of money; to empower the City of Glasgow Union Railway Company to construct a new railway; and for other purposes.	240,000	80,000	9 11

RAILWAY AND CANAL BILLS—*continued.*

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Proposed New Capital.		Length of Proposed Railway.
			By Shares.	By Loan.	
			£.	£.	M. CHS.
Glasgow, Yoker, and Clydebank Railway.	35	To authorise Company to extend their railway to Dalmuir; to double their existing main line; to raise additional capital; to make a certain diversion of the Forth and Clyde Canal; and for other purposes.	100,000	33,300	4 70
Great Eastern Railway (General Powers).	34 39	To authorise Company to construct certain short railways in the counties of Essex and Suffolk; to make certain widenings and improvements in their lines in the counties of Norfolk, Huntingdon, Hertford, Suffolk, and Essex; improvements at Lowestoft Harbour; to alter, divert, and stop up certain footpaths; to purchase additional lands; to extend the time for the completion of the St. Ives and Huntingdon Railway, and widening and improvement of Colchester Main Line; to confirm agreement with the Wivenhoe and Brightlingsea Railway Company, and dissolve latter Company; to establish a "Pension Supplemental Fund"; to raise further capital; and for other purposes.	1,000,000	333,333	2 15 Widening 7 50
Great Eastern Railway (New line and improvements at Cambridge, &c.).	34	To authorise the Company to construct a new railway; for connecting their Cambridge and Ely Main Line with the Newmarket Branch Railway; to widen the Cambridge Main Line, and improve Cambridge Station; and for other purposes.	—	—	1 40 Widening 0 48
Great Northern Railway -	34	To authorise Company to construct certain railways in Nottingham and Derbyshire; to abandon the construction of portions of the extensions of the Leen Valley Railway, authorised by the Act, 1892; to empower Company and Midland Company to widen portions of the Bourn and Lynn Joint Railway; to cross, divert, and stop up certain roads and footpaths; to purchase additional lands; and for other purposes.	—	—	6 43
Great North of Scotland Railway (Various Powers).	35	To authorise Company to extend their railways from a junction with the Formartine and Buchan Railway to Peterhead; to make a widening of the Deeside Railway, and other works; to take additional lands; to divert and stop up certain roads; to make a reservoir and embankment at New Muchar, county Aberdeen, and appropriate water; to establish a Superannuation Fund for officers and servants; and for other purposes.	300,000	100,000	15 20
Guiseley, Yeadon, and Headingly Railway (Abandonment).	33	To authorise the abandonment of the extension railway to Headingly, under the Act of 1891, and release of deposit money under the provisions of that Act, and the Act of 1885; and winding-up of Company.	—	—	—
Highland Railway - -	35	To empower the Company to construct an extension of line from Strome Ferry to Kyle of Lochalsh, in the county of Ross and Cromarty; to erect and maintain a Pier at Kyle; to purchase and acquire the Ferry thereat; to purchase or hire steam vessels; to extend the time for purchase of land; to raise additional capital; and for other purposes.	200,000	66,600	10 37
Hunslet Railway - -	33	To incorporate a Company for the purpose of making a railway from the West Yorkshire Railway of the Great Northern Railway Company to Leeds and Hunslet, with a bridge over the River Aire, between Leeds and Hunslet, with power to enter into working agreements with the Great Northern Railway Company; and for other purposes.	360,000	120,000	4 42

RAILWAY AND CANAL BILLS—*continued.*

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Proposed New Capital.		Length of Proposed Railway.
			By Shares.	By Loan.	
			£.	£.	M. CHS.
Lancashire and Yorkshire Railway.	34	To confer further powers upon the Company in relation to their own undertaking, and upon the Company and the London and North Western Railway: in respect of their joint undertakings, to make new railways in connection with the Clayton West Branch, to widen that Branch, to make certain new roads and works at Oldham, Bolton, Wigan, Accrington, Rochdale, Westhoughton, Summerseat, Salford, Manchester, Nelson, and Brighouse; to take additional lands at various places; and for other purposes.	600,000	200,000	3 51 widening 3 37
Lancashire and Yorkshire and London and North Western Railway Companies (Steam Vessels).	34	To extend and enlarge the powers of the two Companies (conferred by their Acts of 1870, and 1892, as to steam vessels, to empower the two Companies to enter into agreements, to take tolls for passengers), apply their funds for objects of Act; and for other purposes.	—	—	—
Lancashire, Derbyshire, and East Coast Railway.	34	To authorise the Company to divert portions of their authorised railways, to make a new railway and other works in the county of Derby; to stop up certain footpaths and make new ones; to abandon certain portions of Railways Nos. 9, 10, and 11, authorised by the Company's Act, 1891; to extend the time limited for completion of the Newark and Ollerton Railway.	—	—	7 75
Latimer Road and Acton Railway.	32	To extend the time limited for the compulsory purchase of lands, and the completion of the Latimer Road and Acton Railway.	—	—	—
Loch Maree and Aultbea Railway.	35	To incorporate a Company (with guarantee by the Treasury) for the making of certain railways in the County of Ross and Cromarty, from the Dingwall and Skye section of the Highland Railway at Auchnasheen to Aultbea, with a pier at Loch Ewe, with power to Company and the Great North of Scotland Company to use the Highland Railway; power to Board of Trade to dispense with or modify usual requirements for new lines; and for other purposes. (Limitation of borrowing powers.)	315,000	50,000	37 10
London and Blackwall Railway.	32	To further extend the time limited for completion of works authorised by Company's Act, 1885, as regards widening, &c.; to raise additional capital; and for other purposes.	100,000	33,000	—
London and North Western Railway.	34	To authorise the Company to make new railways, deviation and widening of existing railways, respectively, in connection with Company's Rickmansworth Branch; a deviation and alteration of Daventry and Leamington Railway; line to Five Ways; short junction line at Sheffield, and widening at Birmingham; to confer further powers on Company in relation to their own and other undertakings in which they are jointly interested; to confer powers upon the Shropshire Union Railways and Canal Company, the Portpatrick and Wigtownshire Joint Committee, the Midland Railway Company, and the Ashby and Nuneaton Joint Committee; to vest in Company the undertaking of the Holywell Railway Company; to abandon part of Daventry and Leamington Railway; to make new roads, stop up roads, and acquire lands; and for other purposes.	600,000	200,000	4 44

RAILWAY AND CANAL BILLS—*continued.*

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Proposed New Capital.		Length of Proposed Railway.
			By Shares.	By Loan.	
			£.	£.	M. CHS.
London and North Western and Great Western Railway Companies.	34	To empower the Company and the Great Western Railway Company to widen portions of their existing railways in the county of Chester, viz.: the Chester and Holyhead Line and portion of the Birkenhead Railway; to divert roads and acquire easements; to empower the two Companies to enter into agreements with the Shropshire Union Company; and to both raise additional capital; and for other purposes.	300,000 300,000	100,000 100,000	13 77
London and South Western Railway.	33	To empower the Company to construct a new graving dock and other works at Southampton; to widen their railway at Waterloo Station; to take additional lands for general purposes; to subscribe to costs of roads at Bournemouth; to apply funds and raise further capital; and for other purposes.	1,000,000	333,333	Widening 0 1½
London, Chatham, and Dover and South Eastern Railway Companies.	33 39	To provide for the amalgamation of the South Eastern and London, Chatham, and Dover Railway Companies, under title of the first-named Company.	—	—	—
Manchester, Sheffield, and Lincolnshire Railway.	34	To empower the Company to make certain new short railways, respectively, at Tibshelf, in the county of Derby, at Hucknall, Huthwaite, Nottingham, Blackwell, Staveley, Hasland, Chesterfield, Ault Hucknall, and St. Mary; to acquire lands for general purposes; to extend the time for completion of several railways; to apply corporate funds, raise additional capital; and for other purposes.	1,000,000	333,000	11 21
Manchester Ship Canal (Additional Capital, &c.)	34	To empower the Manchester Ship Canal Company to raise additional capital for the completion of their undertaking; to extend the time for the completion of the said undertaking; and for other purposes.	—	2,000,000	—
Manchester Corporation (Ship Canal).	34	To amend the Manchester Ship Canal Act, 1891, and to confer further powers upon the Corporation of the City of Manchester and the Manchester Ship Canal Company, with respect to the lending and borrowing of moneys for the completion of the undertaking of the said Company; and to confer powers upon other corporations with reference thereto; and for other purposes.	—	2,000,000	—
Mersey Docks and Harbour Board (Various Powers).	34	To authorise the Mersey Docks and Harbour Board to construct railways, and alter and improve their dock accommodation and works; and for other purposes.	—	600,000	1 11
Metropolitan District Railway.	32	To extend the time limited for the completion of the Acton Junction Railway; to provide for the abandonment of the West Brompton Junction Railway; to confirm agreement with the South Western Company; to enter into agreements with Metropolitan Railway Company; and to provide for appointment of a standing arbitrator; and for other purposes. (Provision as to trains for labouring classes at special low fares.)	—	—	—
Metropolitan Outer Circle Railway (Abandonment).	32	To authorise the abandonment of the railway sanctioned by Company's Act, 1883; provide for release of deposit money, and dissolution of Company.	—	—	—

RAILWAY AND CANAL BILLS—*continued.*

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Proposed New Capital.		Length of Proposed Railway.
			By Shares.	By Loan.	
			£.	£.	M. CHS.
Metropolitan Outer Circle Railway (Extension of Time).	32	To revive and further extend the time for the compulsory purchase of lands, and further extend the time limited for the completion of Railway.	—	—	—
Midland and Great Northern Railway Companies (Eastern and Midlands Railway).	34 39	For vesting in the two Companies the undertaking and powers of the Eastern and Midlands Railway Company, and to authorise the abandonment of the Mundesley Branch of the latter Company; and for other purposes.	—	—	—
Midland Railway - -	34	To empower the Company to make the Wharncliffe Branch in connection with Company's Chapeltown Branch Extension, the New Gloucester Dock Branch, a widening from Sheffield to Masborough, and from Birmingham to Derby; to make new roads and footpaths; to acquire additional lands at various places; power to supply electricity to the Company's works at Derby; to raise additional capital. (*See* also Electric Lighting.)	900,000	300,000	6 41
North British Railway -	35	To empower Company to construct a junction railway between their Edinburgh and Glasgow and Monkland and Kirkintilloch Railways, to construct new roads, to stop up and discontinue level crossings; to substitute open cutting for tunnel on portion of their Charing Cross Station at Glasgow; to acquire additional lands; to raise further capital; and for other purposes.	200,000	66,666	1 7
North Cornwall Railway	33	For constituting a portion of the railways authorised by the North Cornwall Railway Act, 1882, a separate undertaking under name of the Wadebridge Line; and for other purposes.	150,000	50,000	—
North Eastern Railway -	33	To authorise Company to make certain new railways and widenings in connection with the Blyth and Tyne Railway, the Port Clarence Railway, the York and Normanton line and Leeds and Selby line; to widen certain bridges, divert stop up roads and do away with certain level crossings, purchase additional lands at certain places; to raise additional capital; and for other purposes.	500,000	166,000	7 44
North Eastern Railway (Hull Docks).	33 39	To provide for the amalgamation of the undertaking of the Dock Company at Kingston-upon-Hull with the undertaking of the North Eastern Railway Company; and for other purposes. (Power to raise moneys for paying off debts of Dock Company.)	200,000 (For General Dock Purposes).	66,000	—
North Salop Railway -	35	To incorporate the North Salop Railway Company, and to transfer to the Company certain powers of the Shropshire Railways Company; to authorise the construction of certain short additional Railways in connection therewith; and for other purposes.	350,000	116,666	1 16
North West Central Railway.	34	To extend the period limited by Company's Act of 1890 for purchase of lands and completion of Railways thereby authorised; to authorise agreements with other Companies; and for other purposes.	—	—	—
Oldham Corporation (Manchester Ship Canal).	34	To authorise the Mayor, Aldermen, and Burgesses of the county borough of Oldham to lend money to the Manchester Ship Canal, and to confer powers with that object upon the Corporation and Company; and for other purposes.	—	250,000	—

RAILWAY AND CANAL BILLS—*continued.*

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Proposed New Capital.		Length of Proposed Railway.
			By Shares.	By Loan.	
			£.	£.	M. CH
Plymouth, Devonport, and South Western Junction Railway.	33	To extend the time limited by the Company's Acts of 1882 and 1883; to alter the levels of part of authorised railway; to acquire lands for general purposes; to authorise the Company to construct and maintain the East Cornwall line on a gauge of 3 ft. 6 in., and work the same as a light railway.	—	—	—
Pontypridd, Caerphilly, and Newport Railway.	35	To authorise Company to widen a portion of their railway in connection with the Brecon and Merthyr Tydfil Railway, and connections or junctions with the Tredegar Park Mile Railway between Bassaley and Newport; and for other purposes.	—	—	0 30
Rhondda and Swansea Bay Railway.	35	To authorise Company to make further lines in the county of Glamorgan in extension of authorised lines; to raise further capital; and for other purposes.	90,000	30,000	6 85
Salford Corporation (Manchester Ship Canal).	34	To authorise the Corporation of Salford to lend money to the Manchester Ship Canal Company, and for that purpose to raise additional moneys by mortgage or the issue of Corporation Stock; and for other purposes.	—	1,000,000	—
Scarborough, Bridlington, and West Riding Junction Railways (New Lines).	33	To empower Company to construct new lines in the East Riding of the county of York (Scalby to North Cave and Market Weighton and Arras); to raise additional capital; power to use other railways; and enter into traffic arrangements; and for other purposes.	120,000	40,000	10 0
South Eastern Railway	33	To empower Company to construct a Tramway in connection with the Folkestone, Sandgate, and Hythe Tramways; to use thereon carriages adapted for use on railways; acquire the undertaking of the Tramways Company; to extend period limited for purchase of lands; to constitute Railways I. and II. of the Lydd Railway Extensions a separate undertaking; to establish a joint committee of Company, the Metropolitan, and the Manchester, Sheffield, and Lincolnshire Railway Companies; provisions with respect to the working of mines under railway; to divert on formation of level crossing on Cranbrook and Paddock Wood Railway, and stop up footpaths; provision as to Cranbrook and Bexley Heath Companies Capital; power to enter into working agreements with the Chatham Company; to provide for working of the two Companies as one undertaking; and to incorporate a Joint Board of Management; to apply corporate funds. (*See* also Tramway Bills.)	—	—	(For length of Tramway, *see* Tramways).
Sutton, Rotherham, and Barnsley Railway (Additional Powers).	34	To empower Company to make additional railways in the West Riding of the county of York, in connection with lines authorised by Act of 1892, from Denaby Lane to a junction with the Manchester and Sheffield Railway at Mexborough, and thence to a junction with the Midland Railway; an alteration of the levels of Railway I. under Act 1892; to purchase additional lands; to abandon Railways II. and III. of Act 1892; to raise additional capital; and for other purposes.	300,000	100,000	2 58

RAILWAY AND CANAL BILLS—*continued.*

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Proposed New Capital.		Length of Proposed Railway.
			By Shares.	By Loan.	
			£.	£.	M. CHS.
Taff Vale Railway - - -	35	To empower Company to acquire lands; execute works; stop up certain footpaths; extend time for purchase of lands under Act 1890; to run over Riverside Branch of Great Western Railway; to apply corporate funds for objects of Act; and for other purposes.	—	—	—
Towcester and Buckingham Railway.	34	To authorise the abandonment of railway, and winding up, and dissolution of Company.	—	—	—
Tranmere Dock and Railway.	35	To incorporate a Company for making a dock at Lower Tranmere, in the townships of Tranmere and Birkenhead, a river wall or embankment, and a junction railway with the Birkenhead Railway and other works; to raise capital, enter into agreements with railway companies; and for other purposes.	800,000	266,600	0 27
Waterford and Limerick Railway.	35 39	To authorise the amalgamation of the Athenry and Ennis Junction Railway, and the Athenry and Tuam Railway Companies, with the Waterford and Limerick Railway Company; to empower Company to make a short railway in connection with line from Swinford to Claremorris; to abandon certain railways authorised by the Claremorris and Collooney Orders, 1892; to apply corporate funds, raise debenture stock; and for other purposes.	—	30,000	0 10
Weaver Navigation	35	To empower the Trustees of the River Weaver Navigation to construct two opening bridges across the navigation, at or near Northwich, in the county of Chester, and in connection therewith to make certain new roads, and to apply to those purposes the moneys authorised to be borrowed by former Acts; and for other purposes.	—	—	—
West Lancashire Railway	34	To revive and extend the time for the purchase of lands, and for the completion of the railways authorised by the Company's (Preston Dock Extension) Act, 1884; to empower the running over of portion of Lancashire and Yorkshire Railway; to create debenture stock; and for other purposes.	—	50,000	—
Wirral Railway - -	35	To extend the time for the completion of certain authorised railways of Company (Acts, 1881 and 1886), to revive compulsory powers of purchase of land; to reduce the capital of Company; and for other purposes.	—	—	—
Worcester and Broom Railway.	35	To extend the time limited for the compulsory purchase of lands in respect to the railways authorised by the Company's Act, 1885; and for other purposes.	—	—	—

TRAMWAY BILLS.

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Proposed New Capital.		Length of Proposed Tramways.
			By Shares.	By Loan.	
			£.	£.	M. CHS.
Barry	36	To enable the Railway Company to construct new tramways; and for other purposes. *See* Railway Bills.	—	—	double 0 29 single 1 15
Belfast Street	36	To confirm an agreement between the Belfast Corporation and the Belfast Street Tramways Company, whereby, in consideration of the payment by the Company to the Corporation of an annual sum of money, and other conditions, the Corporation suspend for a period of 14 years their powers of purchase under the Belfast Street Tramways Act, 1872.	—	—	—
Blackpool, St. Anne's, and Lytham.	36	To incorporate the Blackpool, St. Anne's, and Lytham Tramways Company; to authorise the construction of tramways, to be worked by animal power, electric power, or other power approved by the Board of Trade, except steam or cable; gauge 4 ft. 8½ in.; authorising the Company to lease or purchase, either compulsorily or by agreement, any existing or future tramways of the Corporation of Blackpool; providing for the payment to the Company of the deposit held by the Paymaster General, in respect of the abortive Blackpool, St. Anne's-on-the-Sea and Lytham Tramways Order, 1880.	100,000	25,000	double 2 66 single 5 38
Bolton Corporation	36	To authorise the Corporation to work their own tramways and the tramways of certain adjacent local boards, under licence of the Board of Trade, if the tramways cannot be leased at what is in the opinion of the Board of Trade an adequate rent; and increasing the borrowing powers of the Corporation.	—	—	—
Continental Metropolitan	36	To authorise the Continental Metropolitan Tramways Company, Limited, to purchase and extinguish its own shares.	—	—	—
Dublin Southern District	36	To authorise the tramways of the Dublin Southern District Tramways Company to be worked by electrical power, which is defined to include any mechanical power other than steam power; and to enable the Company to purchase the undertaking of the Blackrock and Kingstown Tramways Company.	150,000	30,000	—
Edinburgh Corporation	36	To authorise any tramways acquired by the Corporation to be worked, with the consent of the Board of Trade, by cable or electrical power; enabling the Corporation to purchase or lease the section of tramway between Waterloo Place and Jock's Lodge, and certain other sections in the burghs of Leith and Portobello, and in the county of Midlothian; and sanctioning the borrowing of money for tramway purposes.	—	—	—
Edinburgh Street	36	To authorise the Edinburgh Street Tramways Company to construct additional tramways; and providing for the application of any moneys received from a local authority as the price of any portion of the undertaking purchased.	—	—	double 0 52 single 0 29

TRAMWAY BILLS—*continued.*

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Proposed New Capital.		Length of Proposed Tramways.
			By Shares.	By Loans.	
			£.	£.	M. CHS.
Glasgow Corporation -	36	So far as regards tramways, to authorise the Corporation to construct additional tramways, on a gauge of 4ft. 7¾ in., to be worked by animal or mechanical power, and to fix routes and stations, and the fares between such stations; authorising agreements as to working the Corporation tramways, the running of omnibuses and the purchase of continuation tramways by the Corporation; increasing the Corporation's borrowing powers.	—	200,000	double 6 55 single 1 43
Govan Burgh - - -	36	To authorise the Govan Police Commissioners to purchase portions of the Vale of Clyde and Glasgow and Ibrox Tramways outside the burgh; to authorise the tramways of the Commissioners, with the consent of the Board of Trade, to be worked by mechanical power; increasing the borrowing powers of the Commissioners.	—	*60,000	—
Greenock Corporation and Board of Police.	36	So far as regards tramways, to enable the lines authorised by the Greenock Street Tramways Act, 1871, to be worked, with the consent of the Board of Trade, by steam, electrical, or other mechanical power; authorising the Board of Police, with the approval of the Board of Trade, to purchase the whole or any part of the Vale of Clyde and the Greenock and Port Glasgow Tramways, and to take tolls and use mechanical power thereon.	—	—	—
Harrow Road and Paddington.	36	To extend the time for the compulsory purchase of lands and for the completion of the tramways authorised by the Harrow Road and Paddington Tramways Act, 1891.	—	—	—
Leeds Corporation (Consolidation and Improvement).	36	So far as regards tramways (clauses proposed to be inserted on petition for additional provision) to empower the Board of Trade to licence the Corporation to work their own tramways on being satisfied that they cannot be leased at an adequate rent.	—	—	—
London, Deptford, and Greenwich.	36	To extend the time for the construction of certain tramways; to authorise agreements with the London County Council and the Greenwich District Board of Works with respect to the construction of a new street, tramways, &c.; authorising the sale of tramways to the Council, at any time, under Section 44 of the Tramways Act, 1870; authorising, with the consent of the Board of Trade, the use of mechanical power.	—	—	—
Manchester, Middleton, and District.	36	To provide for the payment of a sum of money out of the balance of the fund deposited in connection with the Manchester, Middleton, and District Tramways Act, 1885, to the Globe Industrial and General Trust Corporation Limited. *See* Railway Bills.	—	—	—

*Further borrowing powers are proposed to be conferred by Clause 19.

TRAMWAY BILLS—*continued.*

NAME OF BILL.	Page in Grouping List of Report, &c.	OBJECT OF BILL.	Proposed New Capital.		Length of Proposed Tramway.
			By Shares.	By Loan.	
			£.	£.	M. CHS.
Saint Helens Corporation	36	So far as regards tramways, to empower the Corporation to purchase the portions of the St. Helens and District Tramways outside the Borough, as well as within, and applying the provisions of Section 43 of the Tramways Act, 1870; enabling the Board of Trade to license the Corporation to work any tramways acquired by them on being satisfied that the lines cannot be leased at an adequate rent; and amending Section 41 of the St. Helens and District Tramways Act, 1883, so as to permit of agreements with the Road Authority, where steam or mechanical power is used, being for a longer period than two years.	—	—	—
Salford Corporation -	36	So far as regards tramways, to authorise the construction of additional lines.	—	7,400	double 0 59 single 0 1
South Eastern Railway -	36	So far as regards tramways, for power to make a tramway in connection with the Folkestone, Sandgate, and Hythe Tramways, on a guage of 4 ft. 8½ in.; providing that engines, carriages, and trucks may extend 2¾ inches beyond the outer edge of the rail; tramway to be worked by steam, electric, or any mechanical power; vesting the Folkstone, Sandgate, and Hythe Tramways in the South Eastern Railway Company; power to enter into traffic and working agreements with the Hythe, Sandgate, and Folkestone Omnibus Company Limited.	—	—	double 0 8 single 4 72
West Metropolitan -	36	To authorise the West Metropolitan Tramways Company to construct additional tramways; power to take up existing tramways for which proposed tramways are to be substituted; authorising the tramways of the Company to be worked by steam, electric, or any mechanical power; empowering the directors, by a scheme to be approved by proprietors, to divide the undertaking into two or more separate undertakings; empowering Hammersmith Vestry to lend Company 20,000 *l.* towards construction of certain tramways, and the London County Council to lend such sum to the Vestry; authorising the Company to raise additional capital; extending time for completion of tramways authorised by West Metropolitan Tramways Act, 1889.	40,000	10,000	double 3 75 single 0 9
Wigan C oration -	36	So far as regards tramways, to authorise the construction of additional lines, partly outside the borough, on a gauge of 3 ft. 6 in., to be worked by animal, steam, or other mechanical power; enabling the Board of Trade to licence the Corporation to work their own tramways if they are unable to lease at an adequate rent.	—	30,000	double 0 40 single 3 31
		TOTAL - - - £.	290,000	862,400	double 15 64 single 16 78

GAS BILLS.

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Proposed Capital.		Special Rate of Dividend (if any).	Proposed Illuminating Power.	Proposed Maximum Price per 1,000 Cubic Feet.
			By Shares.	By Loan.			
			£.	£.		*Candles.*	*s. d.*
Aberdeen Corporation (Gas and Water).	38	To authorise the Town Council to acquire land for the purposes of their Gas undertaking, to erect and maintain works, to borrow additional money; and for other purposes. (*See* Water Bills.)	—	20,000	—	—	—
Accrington Gas and Water.	38	To authorise the Company to raise additional capital; and for other purposes. (*See* Water Bills.)	200,000	50,000	7 per cent. on additional ordinary; and 6 per cent. on additional preference capital. Subject to Auction Clauses.	—	—
Altrincham Gas -	37	To authorise the Company to purchase additional land, to construct and maintain Gasworks, to supply fittings, &c.; to raise additional capital; to repeal Sections of Act of 1872, as to limit of dividend and of quantity of land to be held, and as to appointment of a receiver; and for other purposes.	40,000	10,000	10 per cent. on original capital; 7 per cent. on additional capital, under Act of 1872; 7 per cent. on proposed additional capital; and 6 per cent. on proposed preference capital. Subject to Auction Clauses.	16	3 10 with sliding scale as to dividend.
Barnoldswick Local Board.	37	To repeal the Barnoldswick Gas Order, 1890; to provide for the transfer to the Local Board of the undertaking of the Barnoldswick Gas Company; to enable the Local Board to purchase lands by agreement, to maintain Gasworks, to supply gas in bulk or otherwise, to borrow money; and for other purposes.	—	20,000	—	15	6 -
Barry and Cadoxton Local Board (Gas and Water).	38	To authorise the transfer to the Local Board of the undertaking und powers of the Barry and Cadoxton Gas and Water Company; to empower the Local Board to maintain and construct Gasworks, to purchase lands by agreement, to borrow money; to provide for the keeping of separate accounts of the Gas and Water undertakings, for the application of Gas revenue, for the sale of portion of the works to other sanitary authorities; and for other purposes. (*See* Water Bills.)	—	Such sums as may be required, (1) for expenses of Act; (2) for purchase of undertaking; (3) for working capital.	—	—	—

GAS BILLS—*continued.*

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Proposed Capital.		Special Rate of Dividend (if any).	Proposed Illuminating Power.	Proposed Maximum Price per 1,000 Cubic Feet.
			By Shares.	By Loan.			
			£.	£.		*Candles.*	*s. d.*
Brighton and Hove Gas.	37	To extend the limits within which the Company may supply Gas; to authorise the Company to construct and maintain Gasworks, to supply fittings, &c., gas in bulk, and for heating and cooking purposes, to raise additional capital; and for other purposes.	300,000	75,000	10 per cent. on original shares; 7 per cent. on A. shares; 6 per cent. on preference B. shares; 7 per cent. on addition ordinary; and 6 per cent. on additional preference capital. Subject to Auction Clauses.	—	—
Crystal Palace District Gas.	37	To authorise the Crystal Palace District Gas Company to raise additional capital, to convert the existing authorised capital and debenture stock; to provide for the sale of new stock to consumers of Gas in the Company's district, and to Company's employés; to authorise the Company to amalgamate their undertaking with any Metropolitan Gas Company south of the Thames; and for other purposes.	200,000 Consolidated Ordinary Stock.	Debenture Stock equal to one-third of the paid-up capital, including premiums (155,000).	5 per cent. on converted and additional capital.	—	3 6 with sliding scale as to price and dividend.
Goole and District Gas and Water.	38	To authorise the Company to acquire additional lands, to construct and maintain Gasworks, to raise further capital, and empowering the undertakers of the Aire and Calder Navigation and the Goole Local Board to subscribe to such capital; to enable the Company to apply for a Provisional Order under the Electric Lighting Acts, 1882 and 1888; and for other purposes. (*See* Water Bills.)	30,000	7,500	7 per cent. on additional ordinary, and 6 per cent. on additional preference capital.	—	—
Imperial Continental Gas Association.	37	To extend the borrowing powers of the Association, and to make provision as to unclaimed dividends.	—	One-fourth of capital.	—	—	—
New Swindon Gas	37	To dissolve the limited company and re-incorporate, with power to supply gas within the limits of the Act, to purchase lands, to construct and maintain works, to raise additional capital; and for other purposes. (Original share capital, 30,000 *l.*)	30,000	15,000	10 per cent. on original capital; 7 per cent. on additional ordinary, and 6 per cent. on additional preference capital, subject to Auction Clauses.	14	4 9 with sliding scale as to dividend.
Pontypridd Local Board (Gas).	37	To empower the Local Board to purchase the undertaking of the Pontypridd Gas Light and Coke Company, and to provide for the dissolution of the Company; to authorise the Local Board to purchase land, to construct and maintain gasworks, to supply gas in bulk and otherwise, and to borrow money; to provide for the application of revenue; and for other purposes.	—	95,000 and cost of Act.	—	14	6 —

GAS BILLS—*continued.*

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Proposed Capital.		Special Rate of Dividend (if any).	Proposed Illuminating Power.	Proposed Maximum Price per 1,000 Cubic Feet.
			By Shares.	By Loan.			
			£.	£.		*Candles.*	*s. d.*
St. Helen's Corporation.	36 38	To authorise the Corporation to acquire additional land for the purposes of their Gas Undertaking; and for other purposes. (*See* Water and Tramway Bills.)	—	—	—	—	—
Staines and Egham District Gas and Coke Company, Limited.	37	To confirm and make valid the creation and issue of preference shares by the Company.	—	—	—	—	—
Stockton-on-Tees Corporation Gas.	37	To extend the limits within which the Corporation may supply gas; to authorise the Corporation to acquire additional land, and to borrow money; and for other purposes.	—	68,000	—	—	—
Todmorden Local Board Gas Purchases.	37	To confirm agreements between the Local Board and the Todmorden Gas Company, Fielden Brothers, Limited, and Wilson Brothers, Limited, for the sale and transfer of their respective Gas Undertakings to the Local Board; to provide for the dissolution of the Gas Company, and for the application to the Local Board of the Company's Act of 1871; to empower the Local Board to borrow money, to maintain and construct gasworks, to purchase lands, to supply gas, apparatus, fittings, &c.; and for other purposes.	—	150,000 and, with the consent of the Local Government Board, such further sums as they may require.	—	16	—
Wolverhampton Gas.	37	To extend the limits of supply; to authorise the Company to construct and maintain new gasworks, to purchase lands, to construct a canal basin and other works, to raise additional capital; to amend the borrowing powers of the Company; to repeal Section 35 of the Company's Act of 1852, with respect to the amount of the reserve fund; to authorise the Company to supply gas in bulk; and for other purposes.	80,000	32,240	7 per cent. on additional ordinary, and 5 per cent. on additional preference capital, subject to Auction Clauses.	—	—
		TOTAL GAS BILLS - - £.	880,000	767,740			

WATER BILLS.

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Capital Proposed.	
			By Shares.	By Loans.
			£.	£.
Aberdeen Corporation (Gas and Water).	38	To authorise the Corporation to take lands, to construct and maintain new waterworks, to borrow money for the purpose of the water undertaking; and for other purposes. (*See* Gas Bills.)	—	70,000
Accrington Gas and Water -	38	To authorise the Company to raise additional capital; and for other purposes. (*See* Gas Bills.)	—	—
Barry and Cadoxton Local Board (Gas and Water).	38	To authorise the transfer to the Local Board of the undertaking and powers of the Barry and Cadoxton Gas and Water Company; to provide that the Local Board shall keep separate accounts of the gas and water undertakings; to authorise the Local Board to borrow money; and for other purposes. (*See* Gas Bills.)	—	—
Belfast Water - - -	35 37	To authorise the Belfast City and District Water Commissioners to construct works to provide an additional water supply, and to borrow further money; and for other purposes. (*See* Railway Bills.)	—	875,000
Bilston Commissioners (Water).	37	To confirm an Agreement between the Commissioners and the Corporation of Wolverhampton as to the supply of water; to authorise the Commissioners to take lands, construct new works, and borrow money; to make provision as to the repayment of borrowed moneys; and for other purposes.	—	46,000 And expenses of Act; and such further sums as may be sanctioned by the Local Government Board.
Bodmin Water - - -	37	To extend the limits of supply; to empower the Company to make and maintain new works, to take lands and waters, to raise additional capital, subject to auction clauses; and for other purposes.	12,000	3,000
Chatham Corporation Water	37	To authorise the Corporation to acquire the undertaking of the Brompton, Chatham, Gillingham, and Rochester Waterworks Company; to provide for the dissolution of the Company and for the application of the Company's Acts to the Corporation; to empower the Corporation to maintain works and supply water, to sell portions of undertaking to sanitary authorities by agreement, to borrow money; and for other purposes.	—	Sums required for the purchase of the undertaking, and the costs of the Act, and such further sums as may be approved by the Local Government Board.
Devonport Water - -	37	To define and extend the limits of supply; to authorise the Company to acquire additional lands, and to make and maintain works; to provide that the Company shall sell and the East Stonehouse Local Board shall purchase the Stonehouse portion of the Company's undertaking, and as to the supply of water in bulk to the Local Board; to empower the Local Board to borrow money for the purposes of the Act; and for other purposes.	—	Local Board may borrow sum necessary for purchase of portion of undertaking.

WATER BILLS—*continued.*

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Capital Proposed.	
			By Shares.	By Loans.
			£.	£.
Dublin Corporation - -	37	To authorise the Corporation to borrow additional money for waterworks purposes; and for other purposes.	—	120,000
East London Water - -	32 37	To authorise the Company to raise further money by the creation of debenture stock; to make works; and for other purposes. (*See* also Railway Bills.)	—	Debenture Stock, 500,000
East Stonehouse Water -	37	To authorise the Local Board to construct new works, to take lands and waters, to supply water for hydraulic and other purposes, to deal in meters and fittings, to borrow money, to keep separate accounts of the water undertaking; and for other purposes.	—	20,000 And such further sums as the Local Government Board may approve.
Frimley and Farnborough District Water.	37	To incorporate a Company, with power to supply water within the limits of the Act, to raise capital, to make and maintain waterworks, to take lands and waters, to deal in meters, fittings, &c., to enter into agreements with adjoining companies for the purchase of water in bulk or of the undertaking and powers of the Company; to provide for the transfer to the Company of the powers of the Woking Water and Gas Company under the Surrey and Hants District Waterworks Act, 1887; and for other purposes.	36,000	9,000
Goole and District Gas and Water.	38	To authorise the Company to construct and maintain new waterworks, to take lands and waters, and to raise additional capital; to revive and extend the time for the completion of the old Goole Water Tower authorised by the Company's Act of 1881; and for other purposes. (*See* Gas Bills.)	—	—
Greenock Corporation and Board of Police.	37	To extend the limits for the supply of water by the Water Trust; to authorise the borrowing of additional money for the purpose of the water undertaking; and for other purposes. (*See* Tramway Bills.)	—	20,000
Liverpool Corporation -	38	To provide that any expenditure incurred by the Corporation for extension of their Chorley Waterworks may be borrowed as part of the capital authorised by the Liverpool Corporation Waterworks Amendment Act, 1850; and for other purposes.	—	—
London Hydraulic Power Company.	38	To authorise the Company to raise additional capital; and for other purposes.	300,000	75,000
Lynton Water - - -	38	To dissolve the Lynton Water Company, Limited, and re-incorporate with powers to supply water within the parishes of Lynton and Countisbury, in the county of Devon, to raise capital, subject to auction clauses, to maintain and construct waterworks, to take waters, and to acquire additional lands; to provide for a constant supply of water by the Company; and for other purposes. Original Share Capital, 2,600*l.*	22,400	866 In respect of original capital (inclusive of 800*l.* borrowed by the Limited Company) 5,600 In respect of additional capital.
Plymouth Corporation Water.	38	To authorise the Corporation to construct a reservoir and other works in lieu of the works authorised by the Act of 1887, to borrow additional money; and for other purposes.	—	80,000
Rathmines and Rathgar Waterworks Confirmation and Township Improvement.	38	To confirm and legalise certain works constructed by the Commissioners; to empower the diversion of a conduit authorised by the Act of 1880, the construction of additional works, and the borrowing of additional money; and for other purposes.	—	25,000

WATER BILLS—*continued.*

NAME OF BILL.	Page in Grouping List of Report.	OBJECT OF BILL.	Capital Proposed.	
			By Shares.	By Loans.
			£.	£.
Rochester Extension and Water.	38	To provide for the purchase by the Corporation of the undertaking of the Brompton, Chatham, Gillingham, and Rochester Waterworks Company, and for the sale, by the Corporation, of portions of the undertaking to the Chatham Corporation and Gillingham Local Board; to cause to cease the powers of the Higham and Hundred of Hoo Water Company as to the supply of water within the extended area of the City; to enable the Corporation to borrow money for waterworks purposes; and for other purposes.	—	Such sums as may from time to time be required.
Runcorn Water - - -	38	To authorise the Commissioners to acquire the undertaking of the Runcorn, Weston, and Halton Waterworks Company, and to provide for the dissolution of the Company; to empower the Commissioners to purchase a supply of water from the Corporation of Liverpool, to borrow money; and for other purposes.	—	75,000 And the costs of the Act; and such further sums as may be approved by the Local Government Board.
St. Helen's Corporation -	36 38	To confer power upon the Corporation to purchase or redeem the rents payable to the St. Helen's Waterworks Company, to purchase shares in the Company, to supply water in bulk, to borrow money; and for other purposes. (*See* Gas and Tramway Bills.)	—	150,000 And such sums as may be required for purchase or redemption of rents payable to Water Company.
Sheffield Corporation (Water)	38	To amend the provisions of the Sheffield Corporation Water Acts relating to the water rents to be taken by the Corporation, and to extend the time for the completion of certain reservoirs authorised by the Sheffield Waterworks Act, 1881; and for other purposes.	—	—
South Staffordshire Waterworks.	38	To empower the Company to construct and maintain new reservoirs and other works, and to take lands; to confirm an agreement with the Stourbridge Waterworks Company; to authorise the raising of additional capital and the conversion of the existing preference stock into a uniform preference stock bearing a dividend of 4 per cent.; and for other purposes.	250,000	62,500
Stirling Water - - -	38	To authorise the Commissioners to acquire additional lands, to make and maintain additional works, to supply water for other than domestic purposes, and to borrow money; to make provision as to the assessment and levying of water rates; and for other purposes.	—	20,000
West Hampshire Water -	38	To incorporate a Company with power to supply water within the limits of the Act, to raise capital, to take lands and water, to make and maintain waterworks, to supply water in bulk, to deal in meters, fittings, &c.; to provide for the sale of the undertaking, if required, to the Corporation of Christchurch; and for other purposes.	50,000	12,500
		TOTAL WATER BILLS - - £.	670,400	2,168,666

APPLICATIONS TO THE BOARD OF TRADE FOR PROVISIONAL ORDERS.

TRAMWAY PROVISIONAL ORDERS.

NAME OF ORDER.	OBJECTS OF ORDER.	Length of the Proposed Tramways.		Estimated Cost of Proposed Tramways.
		Double Line.	Single Line.	
		M. CHS.	M. CHS.	£.
Birmingham Central (Cable) -	To authorise the construction of Tramways in the City of Birmingham and neighbourhood thereof, on a gauge of 3 feet 6 inches; power to the Corporation of Birmingham to become Promoters of the portion within the City; provisions as to leases and underleases; varying Section 43 of the Tramways Act, 1870; lines to be worked by animal power, or with consent of Board of Trade for successive periods, not exceeding seven years, by steam, cable, electrical, mechanical, or other power; raising the tolls and charges authorised by the Birmingham Corporation Tramways Order, 1885, from one penny to two pence per mile; provisions as to running powers; power to remove existing lines for construction of lines proposed to be authorised; power to make byelaws in relation to omnibuses.	2 54	—	38,000
Blackpool Corporation - -	To authorise the construction of Tramways in the borough, on a gauge of 4 feet 8½ inches; power to the Corporation to work the Tramways in certain events; provision as to traffic facilities with owners of adjacent tramways; power to borrow 95,000 *l.*; incorporating Sections 264 and 265 of the Public Health Act, 1875.	2 17	3 35	* 43,953
Great Yarmouth - - -	To authorise the construction of Tramways in the borough, on a gauge of 3 feet 6 inches, to be worked by animal or mechanical power other than steam.	0 54	4 18	17,000
Hull - - - - - -	To authorise the construction of Tramways in the borough, on a gauge of 4 feet 8½ inches; provisions as to abandonment of existing lines for which the lines proposed to be authorised would be substituted; power to the Corporation to purchase the existing Tramways, and to become Promoters of the new Tramways; lines to be worked by animal, mechanical, or other power.	2 71	—	17,371
Manchester Corporation - -	To authorise the construction of additional Tramways in the City, and the borrowing by the Corporation of a sum of 6,500 *l.*	0 37	1 1	6,500
Plymouth Corporation - -	To authorise the construction of Tramways in the borough, on a gauge of 3 feet 6 inches, to be worked by animal power, or by steam, or any mechanical power; permission to the Corporation to borrow 24,000 *l.*	2 43	0 11	23,441
South Staffordshire - - -	To authorise the construction of Tramways in the borough of West Bromwich and parish of Handsworth, on a gauge of 3 feet 6 inches; lines to be worked by animal, mechanical, or other power; provisions as to abandonment of existing lines for which the Tramways proposed to be authorised would be in substitution; power to grant leases; varying provisions of Section 43 of Tramways Act, 1870; authorising 50,000*l.* additional capital, and increasing borrowing powers by 12,500 *l.*	2 53	0 4	26,856
	TOTAL - - -	14 9	8 69	173,121

* The Corporation estimate the cost of buildings and equipment, in the event of their working the lines, at 48,455 *l.* additional.

GAS AND WATER PROVISIONAL ORDERS.

NAME OF ORDER.	OBJECT OF ORDER.	Capital Proposed.	
		By Shares.	By Loans.
		£.	£.
	GAS PROVISIONAL ORDERS.		
Bromyard Gas	To empower the Bromyard Gas Light and Power Company, Limited, to construct and maintain Gasworks and supply Gas within the town and parish of Bromyard, and the townships or parishes of Linton and Winslow, all in the county of Hereford	*Original* 1,000 *Additional* 4,000	2,000
Llanfairfechan and Aber Gas	To empower Colonel Henry Platt to maintain and continue Gasworks, and to make and supply Gas in the parishes of Llanfairfechan and Aber, in the county of Carnarvon	*Original* 5,657 *Additional* 8,000	3,414
Newent Gas	To empower the Newent Gas Company, Limited, to maintain and continue Gasworks, and to make and supply Gas in the parish of Newent, in the county of Gloucester.	5,000	1,250
Otley Gas	To empower the Otley Gas Company to supply Gas in bulk, and to purchase additional lands; and to extend the borrowing powers of the Company.	—	2,200
Portishead Gas	To empower the Portishead Gas Company, Limited, to construct and maintain Gasworks, and to make and supply Gas in the parishes of Portishead, Portbury, Clapton, Easton in Gordano or Saint George, and Weston in Gordano, all in the county of Somerset	*Original* 10,000 *Additional* 15,000	6,250
Sheffield Gas	To empower the Sheffield United Gas Light Company to construct and maintain additional works, and to create and issue debenture stock.	—	Debenture Stock, 200,000
Sligo Gas	To empower the Gas Light Company of Sligo to raise additional capital; to extend their limits of supply to include the whole of the municipal borough of Sligo; and for other purposes.	6,000	1,500
Swindon Gas	To empower the Swindon Gas and Coke Company to maintain and continue Gasworks, and to make and supply Gas in part of the parish of Swindon, in the county of Wilts	*Original* 12,000 *Additional* 8,000	5,000
	TOTAL £.	74,657	221,614

GAS AND WATER PROVISIONAL ORDERS—*continued.*

NAME OF ORDER.	OBJECT OF ORDER.	Capital Proposed.	
		By Shares.	By Loans.
	WATER PROVISIONAL ORDERS:	£.	£.
Hoylake and West Kirby - -	To empower the Hoylake and West Kirby Gas and Water Company, Limited, to raise additional capital for the purposes of their water undertaking, such capital to rank *pari passu* with the additional capital authorised by the Hoylake and West Kirby Water Order, 1887, as regards dividends.	10,000	2,500
Llandrindod Wells - - - - -	To empower the Llandrindod Wells Water Company to raise additional capital, the dividends in respect of which are not to exceed 7 per cent. on ordinary capital and 6 per cent. on preference capital.	2,000	500
Maidenhead - - - - - -	To empower the Maidenhead Waterworks Company to extend their limits of supply so as to include the parish of Hurley, and so much of the parishes of White Waltham, Wargrave, Ruscombe, Broad Hinton (detached), and Whistley (detached), in the county of Berks, as are situated north of the Great Western main line; and to raise additional capital, the dividends in respect of which are not to exceed 7 per cent. on ordinary capital and 6 per cent. on preference capital.	10,000	2,500
Newington - - - - - -	To empower the Newington Water Company, Limited, to raise additional capital and to construct additional waterworks; the dividends on the new capital not to exceed 7 per cent. on ordinary capital and 6 per cent. on preference capital.	30,000	7,500
Pocklington - - - - - -	To empower the Pocklington Water Company, Limited, to construct additional waterworks and to raise additional capital.	1,000	250
Poole - - - - - - -	To empower the Poole Waterworks Company to raise additional capital, to construct additional works, and to extend their limits of supply so as to include certain parts of the tything of Kinson and of the parishes of Canford Magna and Corfe Mullen, in the county of Dorset; the dividends in respect of the new capital not to exceed 7 per cent. on ordinary capital and 5 per cent. on preference capital.	20,000	5,000
South West Suburban - - -	To empower the South-West Suburban Water Company to raise additional capital.	50,000	12,500
	TOTAL - - - £.	123,000	30,750
	TOTAL Gas and Water Provisional Orders - £.	197,657	252,364

ELECTRIC LIGHTING PROVISIONAL ORDERS.

NAME OF ORDER.	OBJECT OF ORDER.	Capital Proposed to do Expended.
		£.
Altrincham and Bowdon Electric Lighting Order.	To authorise the Manchester Edison Swan Company (Limited) to supply electricity within the Local Board Districts of Altrincham and Bowdon, and part of the district of the Rural Sanitary Authority for the Altrincham Union.	20,000 For portion of area of supply.
Barnet Local Board Electric Lighting Order.	To authorise the Barnet Local Board to supply electricity within the district of the said local board.	12,350
Beckenham Electric Lighting Order	To authorise the Beckenham Local Board to supply electricity within the Urban Sanitary District of Beckenham.	9,000
Bridgend Electric Lighting Order -	To authorise the Local Board of Bridgend to supply electricity within the Urban Sanitary District of Bridgend.	5,000
Brighton Electric Supply Order -	To authorise the Brighton and Hove Electric Light Company (Limited) to construct and maintain electric lines and works, and to supply electricity within the municipal borough of Brighton.	50,000
Colchester Electric Lighting Order	To authorise the Mayor, Aldermen, and Burgesses of the borough of Colchester to supply electricity within that borough.	10,000
Eccles Electric Lighting Order -	To authorise the Mayor, Aldermen, and Burgesses of the borough of Eccles to supply electricity within that borough.	5,000
Hackney Electric Lighting Order -	To authorise the Board of Works for the Hackney District to supply electricity within that district.	50,000
Hammersmith Electric Lighting Order.	To authorise the Vestry of the parish of Hammersmith to supply electricity within that parish.	171,000
Islington Electric Lighting Order -	To authorise the Vestry of the parish of St. Mary, Islington, to supply electricity within that parish.	45,000
Islington Electric Lighting Order -	To authorise the County of London Electric Lighting Company (Limited) to supply electricity within the parish of St. Mary, Islington.	30,000
Newcastle-upon-Tyne Electric Lighting Order.	To authorise the Newcastle-upon-Tyne Electric Supply Company (Limited) to supply electricity within the city of Newcastle-upon-Tyne.	50,000
Newmarket Electric Lighting Order	To authorise the British Electric Light Company (Limited) to supply electricity within the Urban Sanitary District of Newmarket.	18,000
Partick Electric Lighting Order -	To authorise the Commissioners of Police of the burgh of Partick to supply electricity within that burgh.	50,000
Poplar District Electric Lighting Order.	To authorise the Board of Works for the Poplar District to supply electricity within that district.	85,000
Reading Electric Supply Order -	To authorise the Reading Electric Supply Company (Limited) to supply electricity within the borough of Reading.	30,000
St. Mary, Islington (North), Electricity Supply Order.	To authorise the Holloway Electricity Supply Company (Limited) to supply electricity within a portion of the parish of St. Mary, Islington.	100,000
Taunton (Corporation) Electric Lighting Order.	To authorise the Mayor, Aldermen, and Burgesses of the borough of Taunton to supply electricity within the borough of Taunton and a portion of the district of the Taunton Union Rural Sanitary Authority.	16,000
	TOTAL Electric Lighting Provisional Orders - - £.	756,350

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England and Wales.

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Channel Bridge and Railway Company (Limited) Bill.

Chipstead Valley Railway Bill.

London, Chatham, and Dover, and South Eastern Railway Companies Bill.

South Eastern Railway Bill.

III.
South West District.

III.—South West District:

Brean Down Harbour and Railway Bill.

Bristol Corporation Bill.

London and South Western Railway Bill.

North Cornwall Railway Bill.

Plymouth, Devonport, and South Western Junction Railway Bill.

IV.
North East District.

IV.—North East District:

Broomhill and Amble Railway Bill.

Cleveland Extension Mineral Railway Bill.

Durham Coast Railway Bill.

Guiseley, Yeadon, and Headingley Railway (Abandonment) Bill.

Hunslet Railway Bill.

North Eastern Railway Bill.

North Eastern Railway (Hull Docks) Bill.

Scarborough, Bridlington, and West Riding Junction Railways (New Lines) Bill.

Grouping.

Railway and Canal Bills.

England and Wales.

V.
North West District.

V.—North West District:

Aire and Calder Navigation Bill.

Cheshire Lines Committee Bill.

Lancashire and Yorkshire and London and North Western Railway (Steam Vessels) Bill.

Lancashire and Yorkshire Railway Bill.

London and North Western and Great Western Railway Companies Bill.

London and North Western Railway Bill.

Manchester Corporation (Ship Canal) Bill.

Manchester Ship Canal (Additional Capital, &c.) Bill.

Mersey Dock and Harbour Bill.

North West Central Railway Bill.

Oldham Corporation (Manchester Ship Canal) Bill.

Salford Corporation (Manchester Ship Canal) Bill.

West Lancashire Railway Bill.

VI.
Midland and Eastern Counties District.

VI.—Midland and Eastern Counties District:

Birmingham Canal Bill.

Cheadle Railway Mineral and Land Company, Limited, Bill.

Great Eastern Railway (General Powers) Bill.

Great Eastern Railway (New Line and Improvements at Cambridge) Bill.

Great Northern Railway Bill.

Lancashire, Derbyshire, and East Coast Railway Bill.

Manchester, Sheffield, and Lincolnshire Railway Bill.

Midland and Great Northern Railway Companies (Eastern and Midlands Railway) Bill.

Midland Railway Bill.

Sutton, Rotherham, and Barnsley Railway (Additional Powers) Bill.

Towcester and Buckingham Railway Bill.

VII.—Wales.

Barry Railway Bill.

Fishguard Bay Railway and Pier Bill.

North Salop Railway Bill.

Pontypridd Caerphilly and Newport Railway Bill.

Rhondda and Swansea Bay Railway Bill.

Taff Vale Railway Bill.

Tranmere Dock and Railway Bill.

Weaver Navigation Bill.

Wirral Railway Bill.

Worcester and Broom Railway Bill.

VIII.—Scotland.

Aberlady Gullane and North Berwick Railway Bill.

Brechin and Edzell District Railway Bill.

Caledonian Railway Bill.

East Fife Central Railway Bill.

Glasgow and South Western Railway Bill.

Glasgow, Yoker, and Clydebank Railway Bill.

Great North of Scotland Railway (Various Powers) Bill.

Highland Railway Bill.

Lock Maree and Aultbea Railway Bill.

North British Railway Bill.

IX.—Ireland.

Belfast Water Bill.

Cork and Fermoy and Waterford and Wexford Railway Bill.

Derry City and County Railway Bill.

Donegal Railway Bill.

Waterford and Limerick Railway Bill.

Grouping.

X.

Tramway Bills.

England and Wales.

X.—TRAMWAY BILLS.

England and Wales.

Blackpool, St. Annes, and Lytham.

Bolton Corporation.

Continental Metropolitan Tramways Company, Limited.

Harrow Road and Paddington.

Leeds Corporation.

London, Deptford, and Greenwich.

Manchester, Middleton, and District.

St. Helen's Corporation.

Salford Corporation.

West Metropolitan.

Wigan Corporation.

Scotland.

Scotland.

Edinburgh Corporation.

Edinburgh Street.

Glasgow Corporation.

Govan Burgh.

Greenock Corporation and Board of Police.

Ireland.

Ireland.

Belfast Street.

Dublin Southern District.

XI.—GAS AND WATER BILLS.

Grouping.

XI.
Gas and Water Bills.

Gas.

Gas.

Altrincham Gas Bill.

Barnoldswick Local Board Bill.

Brighton and Hove Gas Bill.

Crystal Palace District Gas Bill.

Imperial Continental Gas Association Bill.

New Swindon Gas Bill.

Pontypridd Local Board Gas Bill

Staines and Egham District Gas Bill.

Stockton-on-Tees Corporation Gas Bill.

Todmorden Local Board Gas Bill.

Wolverhampton Gas Bill.

Water.

Water.

Belfast Water Bill.

Bilston Commissioners Water Bill.

Bodmin Water Bill.

Chatham Corporation Water Bill.

Devonport Water Bill.

Dublin Corporation Bill.

East London Water Bill.

East Stonehouse Water Bill.

Frimley and Farnborough District Water Bill.

Greenock Corporation Board of Police Bill.

Grouping.

XI.

Gas and Water Bills.

Water.

Liverpool Corporation Bill.

London Hydraulic Power Company's Bill.

Lynton Water Bill.

Plymouth Corporation Water Bill.

Rathmines and Rathgar Water Bill.

Rochester Extension and Water Bill.

Runcorn Water Bill.

Sheffield Corporation (Water) Bill.

South Staffordshire Water Bill.

Stirling Water Bill.

West Hampshire Water Bill.

Gas and Water.

GAS AND WATER.

Aberdeen Corporation (Gas and Water) Bill.

Accrington Gas and Water Bill.

Barry and Cadoxton Local Board (Gas and Water) Bill.

Goole and District Gas and Water Bill.

St. Helen's Corporation Bill.

AMALGAMATION, SALE, LEASE, OR TRANSFER OF RAILWAYS, &c.

Amalgamation of Railways.

THE following Bills contain provisions for the Amalgamation of certain Railway Companies, or for the Sale, Lease, or Transfer of certain Railways, &c.:—

The Caledonian Railway Bill proposes to authorise the Company to amalgamate with the Greenock and Wemyss Bay Railway Company.

The Derry City and County Railway Bill provides for the transfer to the Company of the undertaking of the Draperstown Railway Company.

The Great Eastern Railway (General Powers) Bill proposes to confirm an agreement with the Wivenhoe and Brightlingsea Railway Company, and dissolve the latter Company.

The London, Chatham and Dover, and South Eastern Railway Companies Bill proposes to amalgamate these Companies under the title of the South Eastern Railway Company.

The Midland and Great Northern Railway Companies (Eastern and Midlands Railway) Bill proposes vesting in the two companies the undertaking of the Eastern and Midlands Railway Company.

The North Eastern Railway (Hull Docks) Bill provides for the amalgamation of the undertaking of the Dock Company at Kingston-upon-Hull with that of the North Eastern Railway Company.

The Waterford and Limerick Railway Bill proposes to authorise the amalgamation of the Athenry and Ennis Junction Railway and the Athenry and Tuam Railway Companies with the Waterford and Limerick Railway Company.

Board of Trade,
February 1893.

COURTENAY BOYLE.

APPENDIX.

1. LIST of BILLS for which REPORTS are required to be made by the Board of Trade with regard to Tolls, Rates, and Charges, under Standing Order of House of Commons, 145A.—

Aberlady, Gullane, and North Berwick Railway.

Ayr Harbour.

Barking Town Wharf.

Barry Railway.

Birmingham Canal.

Blackpool, St. Anne's, and Lytham Tramways.

Brechin and Edzell District Railway.

Brighton and Rottingdean Seashore Electric Railway.

Bristol Corporation.

Broomhill and Amble Railway.

Chipstead Valley Railway.

Clapham Junction and Paddington Railway.

Durham Coast Railway.

East Fife Central Railway.

Edgware Road and Victoria Railway.

Fishguard Railway and Pier.

Fleetwood Improvement.

Glasgow Corporation.

Highland Railway.

Hunslet Railway.

Lancashire and Yorkshire and London and North Western Railway Companies (Steam Vessels).

Loch Maree and Aultbea Railway.

Metropolitan District Railway.

North Eastern Railway.

North Salop Railway.

Plymouth, Devonport, and South Western Junction Railway.

South Level Drainage and Navigation Commissioners and Padnal and Waterden Commissioners.

Tranmere Dock and Railway.

Waterford Harbour.

Weston-super-Mare Grand Pier.

York Corporation.

---

2. LIST of BILLS containing powers of purchase, &c., in respect of which it may be necessary for the Board of Trade to issue Certificates of compliance with Standing Orders 122, House of Lords, and 163, House of Commons, as regards the paid-up Capital and Expenditure of the Companies :—

Caledonian Railway.

Derry City and County Railway.

Great Eastern Railway (*General Powers*).

London and North Western Railway.

London, Chatham, and Dover and South Eastern Railway Companies.

Midland and Great Northern Railways (*Eastern and Midlands Railway.*)

North Eastern Railway (*Hull Docks*).

Waterford and Limerick Railway.

---

3. LIST of BILLS in respect of which REPORTS are required to be made by the Board of Trade under Standing Order 158A, House of Commons, with regard to Abandonments and Release of Deposits :—

Brighton, Rottingdean, and Newhaven Direct Railway (*Abandonment*).

Cork and Fermoy and Waterford and Wexford Railway.

Guiseley, Yeadon, and Headingley Railway (*Abandonment*).

Metropolitan Outer Circle Railway (*Abandonment*).

Midland and Great Northern Railways (*Eastern and Midlands Railway*).

Towcester and Buckingham Railway.

---

4. LIST of BILLS for which REPORTS are required to be made by the Board of Trade with regard to Level Crossings and Inclination of Roads, under Standing Orders 154 and 155 :—

Aberlady, Gullane, and North Berwick.

Barry.

Belfast Water.

Brechin and Edzell District.

Broomhill and Amble.

Chipstead.

Derry City and County.

Donegal.

Durham Coast.

East Fife Central.

Great Eastern (General Powers).

Great Northern.

Great North of Scotland.

Highland.

Lancashire, Derbyshire, and East Coast.

Loch Maree and Aultbea.

London and North Western.

Manchester, Sheffield, and Lincolnshire.

Mersey Docks and Harbour Board.

Midland.

North British.

North Eastern.

Scarborough, Bridlington, and West Riding Junction.

Sutton, Rotherham, and Barnsley.

REPORT by the Board of Trade upon all the Railway, Canal, Tramway, Gas, and Water Bills and Provisional Orders of Session 1893.

(*Mr. Burt.*)

Ordered, by The House of Commons, *to be Printed,*
7 *February* 1893.

[*Price* 4½ *d.*]

42. *Under* 4 *oz.*

RAILWAY RETURNS

FOR

ENGLAND AND WALES,

SCOTLAND,

AND

IRELAND.

For the Year 1892.

Pursuant to the Act 34 *&* 35 *Vict. cap.* 78.

WITH SUMMARY TABLES FOR UNITED KINGDOM
For each Year from 1854 to 1892, &c.

Presented to both Houses of Parliament by Command of Her Majesty.

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PRINTED FOR HER MAJESTY'S STATIONERY OFFICE,
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1893.

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Commercial Department, Board of Trade, Whitehall Gardens, June 1893.

R. GIFFEN.

The following Companies had not made returns at the time of going to press, and the question of proceeding against them has been referred to the Solicitor:—

Eastern and Midlands; Forest of Dean Central; Lynton; Maenclochog; Wye Valley; and the Milford Haven Railway and Estate Company in respect of Returns II. and III. for the Milford Haven Dock and Railway.

Returns of traffic and expenditure could not be furnished for the Halifax High Level Railway because the Companies working the line had not agreed as to the accounts.

Note.—In order to exhibit the Traffic of Season Ticket Passengers on a uniform Plan, the Companies were requested to divide the Number of Tickets issued for shorter periods than a Year by the number of such periods in a Year, and to return the result arrived at as the equivalent number of Annual Season Tickets issued. In the case of Companies which have adopted this suggestion the Numbers given are distinguished in the Return by a Note.

A 77039. Wt. 5284. a 2

SUMMARY TABLE for UNITED

LENGTH of LINES, CAPITAL, PASSENGERS CONVEYED,

YEAR.	LENGTH OF LINE OPEN FOR TRAFFIC AT THE END OF EACH YEAR.			CAPITAL AUTHORISED.			CAPITAL PAID UP.						
	Double or more.	Single.	TOTAL	By Shares and Stock.	By Loans and Debenture Stock.	TOTAL.	Ordinary.	Guaranteed.	Preferential.	Loans.	Debenture Stock.	TOTAL.	Per Mile o Line open.
	Miles.	*Miles.*	*Miles.*	£	£	£	£	£		£	£	£	£
1854	6,103	1,950	8,053	276,000,577	92,383,731	368,384,308	166,030,806	49,377,952		70,660,036	Cannot be given for these years.	286,068,794	35,52
1855	6,153	2,182	8,335	280,628,621	94,343,345	374,971,966	169,605,442	52,818,026		75,161,241		297,584,709	35,70
1856	6,266	2,444	8,710	282,890,751	94,877,156	377,767,907	173,446,109	56,789,558		77,359,419		307,595,086	35,31
1857	6,357	2,682	9,039	288,013,644	99,038,090	387,051,734	178,624,394	58,126,627		78,406,237		315,157,258	34,86
1858	—	—	9,542	292,248,276	100,134,479	392,682,755	181,837,781	61,854,547		81,683,179		325,375,507	34,09
1859	—	—	10,002	285,434,181	98,282,170	383,716,351	184,560,019	63,555,179		80,628,116	5,619,614	334,362,928	33,43
1860	6,690	3,743	10,433	298,685,142	100,729,685	399,414,827	190,790,867	67,873,840		81,888,546	7,576,874	348,130,127	33,36
1861	6,893	3,972	10,865	322,369,654	107,503,292	429,872,946	193,591,991	73,784,336		87,144,443	7,806,568	362,327,338	33,34
1862	7,009	4,542	11,551	338,777,276	111,819,462	450,596,738	197,077,589	87,792,380		89,683,373	10,665,096	385,218,438	33,34
1863	7,270	5,052	12,322	355,700,795	119,298,750	474,999,545	204,597,257	97,496,291		89,641,525	12,480,729	404,215,802	32,80
1864	7,402	5,387	12,789	390,413,137	130,109,197	520,522,334	214,947,054	104,647,626		93,075,392	13,049,541	425,719,613	33,28
1865	7,593	5,786	13,289	432,889,245	143,402,418	576,291,663	219,598,196	124,263,475		97,821,097	13,795,375	455,478,143	34,27
1866	7,711	6,143	13,854	466,151,633	154,412,773	620,564,406	228,245,629	134,455,098		105,065,863	14,105,594	481,872,184	34,79
1867	7,844	6,403	14,247	481,447,440	161,405,968	642,853,408	233,023,854	143,209,357		110,392,559	15,637,117	502,262,887	35,25
1868	—	—	14,628	455,895,068	159,550,550	*615,445,618	224,133,427	£ 28,891,356	£ 124,940,707	108,428,865	25,286,500	511,680,855	34,99
1869	—	—	†15,145	449,087,573	160,180,080	609,267,653	226,788,133	25,203,671	130,553,989	101,729,398	34,504,570	§518,779,761	34,22
1870	—	—	†15,537	437,963,372	158,215,010	596,178,382	229,282,150	36,188,320	122,503,764	90,713,779	51,220,660	§529,908,673	34,11
1871	8,338	7,038	15,376	451,898,908	163,827,982	615,726,890	230,234,058	64,552,793	108,496,620	82,095,545	67,282,535	552,661,551	35,9
1872	8,512	7,302	15,814	472,419,873	172,169,480	644,589,353	239,039,089	63,004,313	114,760,361	66,224,217	85,981,511	‡569,047,346	35,9
1873	8,687	7,395	16,082	497,923,723	178,763,863	676,686,586	244,449,805	66,187,541	121,939,528	55,888,314	99,855,120	588,320,308	36,5
1874	8,749	7,700	16,449	518,980,250	185,358,049	704,338,299	248,528,241	71,207,480	129,723,149	49,266,070	111,170,991	609,895,931	37,1
1875	8,898	7,760	16,653	529,900,023	187,875,675	717,775,698	254,600,732	77,912,315	134,281,009	40,420,754	123,008,684	630,223,494	37,8
1876	9,169	7,703	16,872	549,095,705	192,706,822	741,802,527	262,008,883	80,779,671	148,128,321	32,552,415	134,745,486	§§ 658,214,776	39,0
1877	9,235	7,842	17,077	559,699,466	197,687,362	757,386,828	265,041,233	73,365,705	163,682,448	28,874,496	143,095,166	674,059,048	39,4
1878	9,412	7,921	17,333	579,372,262	199,500,310	778,872,572	265,675,340	86,121,162	172,495,984	24,386,996	149,865,672	§§ 698,545,154	40,3
1879	9,671	8,025	17,696	586,693,445	202,898,130	789,591,575	266,914,656	88,235,286	182,483,758	22,451,416	156,918,353	717,003,469	40,5
1880	9,803	8,130	17,933	596,248,649	205,765,355	802,014,004	270,496,503	91,004,931	185,056,783	18,728,424	163,030,207	728,316,848	40,6
¶1881	9,873	8,302	18,175	617,998,561	213,128,751	831,127,312	275,935,904	92,076,563	192,889,001	17,079,636	167,547,058	745,528,162	41,0
1882	10,044	8,413	18,457	653,605,119	224,105,886	877,711,005	283,574,028	93,035,614	201,114,958	17,042,059	172,233,511	767,809,570	41,6
1883	10,105	8,576	18,681	671,899,467	233,001,674	**904,951,141	293,437,106	94,672,823	200,888,198	15,323,505	180,599,680	784,921,312	42,0
1884	10,239	8,625	18,864	681,414,345	238,641,685	**920,106,030	298,983,446	95,603,613	205,809,234	14,793,420	186,274,654	801,464,367	42,4
1885	10,446	8,723	19,169	686,333,835	241,360,153	**927,748,988	302,254,759	96,021,414	212,107,749	13,356,875	192,117,253	815,858,055	42,5
1886	10,528	8,804	19,332	698,695,305	243,070,235	941,765,540	305,202,082	97,082,467	217,369,177	12,833,579	195,856,949	828,344,254	42,8
1887	10,592	8,986	19,578	705,509,916	246,128,092	951,638,008	314,795,317	97,372,702	221,451,633	12,422,594	199,929,358	845,971,654	43,2
1888	10,772	9,040	19,812	718,201,513	252,362,643	970,564,156	322,338,446	97,706,609	225,708,210	11,091,289	207,761,409	864,695,963	43,6
1889	10,853	9,090	19,943	726,270,010	255,897,184	982,167,194	326,229,558	98,036,515	229,410,112	9,603,711	213,815,270	876,595,166	43,9
1890	10,989	9,084	20,073	738,492,132	266,037,032	1,004,529,164	332,070,153	98,796,917	234,092,086	9,340,185	223,172,685	897,472,026	44,7
1891	11,065	9,126	20,191	756,775,874	279,735,666	1,036,511,540	340,361,063	99,768,619	239,414,226	10,576,268	229,304,945	919,425,121	45,5
1892	‡‡11,158	9,167	20,325	765,522,609	287,084,056	1,052,606,665	347,700,876	100,906,005	244,613,151	12,015,301	239,121,987	944,357,320	46,4

* The authorised capital of several companies, having merely a nominal existence, has been omitted in 1868 and subsequent years.

† Number of miles constructed. ‡ Including 37,855*l.* Capitalized Rentcharge. § Stock and Share Capital received.

‡‡ See also Table No. 2 A, pp. 58 and 64.

§§ There was a large nominal increase in the capital of some companies from the consolidation of stocks.

** Including 50,000*l.* which may be raised by Ordinary Capital or Debenture Stock.

KINGDOM in each Year from 1854 to 1892.

Gross and Net Receipts, and Working Expenses.

Number of Passengers conveyed, exclusive of Season Ticket Holders.	Gross Receipts. From Passenger Traffic.†† Total.	Gross Receipts. From Passenger Traffic.†† Proportion to Total Receipts.	Gross Receipts. From Goods Traffic. Total.	Gross Receipts. From Goods Traffic. Proportion to Total Receipts.	Gross Receipts. Total from Traffic. Total.	Gross Receipts. Total from Traffic. Per Mile of Line open.	Gross Receipts. Total from Traffic. Per Train Mile.	Gross Receipts. Miscellaneous. Rents, Tolls, Navigation, Steamboats, &c.	Gross Receipts. Miscellaneous. Proportion to Total Receipts.	Gross Receipts. Total from all Sources.	Working Expenditure. Total.	Working Expenditure. Proportion to Total Receipts.	Net Receipts. Total.	Net Receipts. Proportion to Total paid up Capital.	Year.
No.	£	*Per Cent.*	£	*Per Cent.*	£	£	*s. d.*	£	*Per Cent.*	£	£	*Per Cent.*	£	*Per Cent.*	
111,180,165	10,244,954	50·68	9,970,770	49·32	20,215,724	2,510	5 6½								1854
118,567,170	10,694,790	49·73	10,812,809	50·27	21,507,599	2,580	5 9½								1855
129,315,196	11,376,337	49·11	11,789,156	50·89	23,165,493	2,660	5 11¼								1856
138,971,240	11,888,219	49·18	12,286,392	50·82	24,174,611	2,674	5 9½				Cannot be given for these years.				1857
139,141,135	11,697,906	48·83	12,258,845	51·17	23,956,751	2,511	5 6								1858
149,757,294	12,537,493	48·70	13,206,009	51·30	25,743,502	2,574	5 6								1859
163,435,678	13,085,756	47·13	14,680,866	52·87	27,766,622	2,661	5 5				13,187,368	47	14,579,254	4·19	1860
173,721,139	13,326,475	46·65	15,238,880	53·35	28,565,355	2,629	5 5				13,843,337	48	14,722,018	4·06	1861
180,429,071	13,911,985	47·76	15,216,573	52·24	29,128,558	2,522	5 4½				14,268,409	49	14,860,149	3·86	1862
204,635,075	14,521,528	46·61	16,634,869	53·39	31,156,397	2,529	5 4				15,027,234	48	16,129,163	3·99	1863
229,272,165	15,684,040	46·11	18,331,524	53·89	34,015,564	2,660	5 3				16,000,308	47	18,015,256	4·23	1864
251,862,715	16,572,051	46·17	19,318,062	53·83	35,890,113	2,701	5 1¼				17,149,073	48	18,741,040	4·11	1865
274,293,608	17,395,925	45·58	20,768,429	54·42	38,164,354	2,755	5 4				18,811,673	49	19,352,681	4·02	1866
287,688,113	17,935,634	45·43	21,544,365	54·57	39,479,999	2,771	5 3¾				19,848,952	50	19,631,047	3·91	1867
—	‖	—	‖	—	‖	—	—	‖	—	‖	‖	—	‖	—	1868
312,759,053	18,811,504	44·06	22,263,817	52·15	41,075,321	2,712	5 2½	1,620,606	3·80	42,695,927	20,780,078	49	21,915,849	4·22	1869
336,545,397	19,301,911	42·82	24,115,159	53·50	43,417,070	2,794	5 1½	1,661,073	3·68	45,078,143	21,715,525	48	23,362,618	4·41	1870
375,220,754	20,622,580	42·18	26,484,978	54·17	47,107,558	3,064	5 3	1,785,222	3·65	48,892,780	23,152,860	47	25,739,920	4·66	1871
423,874,822	22,287,555	41·87	29,016,559	54·50	51,304,114	3,244	5 4½	1,931,396	3·63	53,235,510	26,277,640	49	26,957,870	4·74	1872
455,320,188	23,853,892	41·31	31,821,529	55·11	55,675,421	3,462	5 7¾	2,066,579	3·58	57,742,000	30,753,848	53	26,989,152	4·59	1873
477,840,411	24,893,615	42·01	32,005,883	54·01	56,899,498	3,459	5 8	2,356,217	3·98	59,255,715	32,612,712	55	26,643,003	4·37	1874
506,975,234	25,714,681	41·99	33,268,072	54·33	58,982,753	3,541	5 7½	2,254,247	3·68	61,237,000	33,220,728	54	28,016,272	4·45	1875
534,494,069	26,163,551	42·05	33,754,317	54·25	59,917,868	3,551	5 6¾	2,297,907	3·69	62,215,775	33,535,509	54	28,680,266	4·36	1876
549,541,325	26,534,110	42·13	34,109,947	54·17	60,644,057	3,551	5 6¼	2,329,271	3·70	62,973,328	33,857,978	54	29,115,350	4·32	1877
565,024,455	26,889,614	42·78	33,564,761	53·39	60,454,375	3,488	5 5½	2,408,299	3·83	62,862,674	33,189,368	53	29,673,306	4·25	1878
562,732,890	25,915,585	41·95	33,479,697	54·19	59,395,282	3,356	5 3	2,381,421	3·86	61,776,703	32,045,273	52	29,731,430	4·15	1879
603,885,025	27,200,464	41·53	35,761,303	54·60	62,961,767	3,511	5 2¾	2,529,858	3·86	65,491,625	33,601,124	51	31,890,501	4·38	1880
623,047,787	27,461,645	41·26	36,446,592	54·76	63,908,237	3,516	5 1¾	2,649,205	3·98	66,557,442	34,602,616	52	31,954,826	4·29	1881¶
654,838,295	28,796,813	41·51	37,740,315	54·40	66,537,128	3,605	5 2	2,839,996	4·09	69,377,124	36,170,436	52	33,206,688	4·32	1882
683,718,137	29,508,733	41·53	38,701,319	54·46	68,210,052	3,651	5 1	2,852,218	4·01	71,062,270	37,368,562	53	33,693,708	4·29	1883
694,991,830	30,030,450	42·58	37,670,592	53·42	67,701,042	3,589	5 0	2,821,601	4·00	70,522,643	37,217,197	53	33,305,446	4·16	1884
697,213,631	29,773,022	42·89	36,871,945	53·01	66,644,967	3,477	4 10	2,910,807	4·19	69,555,774	36,787,957	53	32,767,817	4·02	1885
725,584,390	30,244,938	43·46	36,370,439	52·26	66,615,377	3,446	4 10	2,976,576	4·28	69,591,953	36,518,247	52	33,073,706	3·99	1886
733,678,531	30,573,287	43·09	37,341,299	52·64	67,914,586	3,469	4 10	3,028,790	4·27	70,943,376	37,063,266	52	33,880,110	4·00	1887
747,499,164	30,984,090	42·51	38,755,780	53·16	69,739,870	3,520	4 9½	3,154,795	4·33	72,894,665	37,762,107	52	35,132,558	4·06	1888
775,483,073	32,630,724	42·36	41,086,333	53·34	73,717,057	3,696	4 10½	3,307,960	4·30	77,025,017	40,094,116	52	36,930,901	4·21	1889
817,744,046	34,327,965	42·94	42,220,382	52·81	76,548,347	3,813	4 10½	3,400,355	4·25	79,948,702	43,188,556	54	36,760,146	4·10	1890
845,463,668	35,130,916	42·92	43,230,717	52·81	78,361,633	3,881	4 10	3,498,974	4·27	81,860,607	45,144,778	55	‖‖36,731,624	4·00	1891
864,435,388	35,662,816	43·44	42,866,498	52·22	78,529,314	3,864	4 9½	3,562,726	4·34	82,092,040	45,717,965	56	36,374,075	3·85	1892

‖ Cannot be given for this year, several Companies having omitted to make the necessary returns.

†† Including Receipts from Season Tickets, Carriages, Horses, &c., and Post Office Mails.

¶ The returns for the Great Western Railway Company for this year were for eleven months only, the Company having changed the date to which its accounts were made up.

‖‖ Including 15,795*l.* received by the South-Eastern Company from the London, Brighton, and South Coast Company.

SUMMARY TABLES FOR ENGLAND AND WALES,

No. 1.—Amount of Ordinary, Guaranteed, and Preferential Stock and Share Capital of Railway of the Years 1888,

Rate per Cent. of Dividend paid.	England and Wales. Ordinary.						
	1888.	1889.	1890.	1891.	1892.	1888.	1889.
	£	£	£	£	£	£	£
Capital of New Companies the Lines of which were in course of construction :							
No Dividend paid	1,726,597	1,729,608	1,515,289	5,555,591	5,763,540	—	—
3 per Cent. paid	184,372	—	—	—	113,680	—	—
3½ „ „	141,945	214,252	33,760	73,570	133,720	—	—
4 „ „	2,067,382	2,279,518	3,563,683	—	—	—	—
5 „ „	22,353	24,247	8,577	—	—	—	—
Capital of Constructed Lines upon which no Dividend was paid	38,241,887	35,284,371	36,235,027	33,481,432	36,123,373	36,200	36,200
Dividends paid: Not exceeding 1 per Cent.	826,161	2,218,530	756,504	4,181,981	1,425,414	—	—
Exceeding 1 and not exceeding 2 per Cent.	2,485,065	1,103,367	1,114,813	1,778,925	9,071,320	101,180	101,180
„ 2 and not exceeding 3 per Cent.	26,900,249	23,377,431	28,887,113	37,151,562	25,235,700	—	—
„ 3 and not exceeding 4 per Cent.	8,837,003	9,200,672	13,017,355	37,082,951	49,094,172	41,654,666	41,650,039
„ 4 and not exceeding 5 per Cent.	41,163,740	47,508,037	39,103,242	13,176,369	33,479,551	36,466,734	36,460,111
„ 5 and not exceeding 6 per Cent.	75,840,115	53,678,056	22,993,514	19,777,074	76,066,216	4,003,580	4,003,580
„ 6 and not exceeding 7 per Cent.	61,885,503	20,504,572	54,792,054	122,455,977	44,716,047	—	—
„ 7 and not exceeding 8 per Cent.	3,032,800	67,413,652	67,478,743	2,740,305	2,068,400	2,000	—
„ 8 and not exceeding 9 per Cent.	—	3,509,510	1,027,800	252,000	575,583	200	2,000
„ 9 and not exceeding 10 per Cent.	691,160	—	740,882	829,820	1,176,220	50,000	50,000
„ 10 and not exceeding 11 per Cent.	—	—	—	—	—	—	—
„ 11 and not exceeding 12 per Cent.	—	—	—	—	—	—	—
„ 12 and not exceeding 13 per Cent.	—	179,534	—	—	—	—	—
At 13½ per Cent.	—	—	—	—	—	—	—
„ 15 „	1,794,840	—	—	—	—	—	—
Total England and Wales	265,841,172	268,225,357	271,268,356	278,537,557	285,042,936	82,314,560	82,303,110

* Including 350,000*l.* on which dividend accrued from 1st January 1893.

SCOTLAND, AND IRELAND, FOR THE YEARS 1888 to 1892.

COMPANIES in ENGLAND and WALES, classed according to the Rate per Cent. of Dividend Paid, in each 1889, 1890, 1891, and 1892.

ENGLAND AND WALES.								
GUARANTEED.			PREFERENTIAL.					RATE per CENT. of DIVIDEND PAID.
1890.	1891.	1892.	1888.	1889.	1890.	1891.	1892.	
£	£	£	£	£	£	£	£	Capital of New Companies the Lines of which were in course of construction : No Dividend paid.
—	25,820	166,250	307,605	350,630	18,080	4,050,342	4,295,395	
—	—	—	—	—	—	—	—	3 per Cent. paid.
145,000	220,000	—	—	—	—	—	—	3½ „ „
—	—	—	2,970,790	2,392,751	3,398,866	—	—	4 „ „
—	—	—	38,820	—	—	—	—	5 „ „
66,000	36,200	416,000*	10,015,427	10,680,788	9,585,474†	9,758,627†	9,679,285	Capital of Constructed Lines upon which no Dividend was paid.
—	—	—	1,650,000	370,000	407,467	100,000	100,000	Dividends paid : Not exceeding 1 per Cent.
101,180	101,180	201,180	233,000	105,770	1,660,000	120,564	131,000	Exceeding 1 and not exceeding 2 per Cent.
—	—	—	760,634	1,377,403	1,320,858	2,173,276	2,905,000	„ 2 and not exceeding 3 per Cent.
41,644,381	41,642,072	42,806,207	121,373,886	126,054,351	122,978,269	134,060,207	137,074,298	„ 3 and not exceeding 4 per Cent.
36,456,483	36,456,001	36,513,921	40,114,354	40,081,548	46,793,712	40,476,878	40,937,726	„ 4 and not exceeding 5 per Cent.
4,003,580	4,775,580	4,005,580	2,992,426	2,360,995	2,375,635	2,375,655	1,576,675	„ 5 and not exceeding 6 per Cent.
—	2,000	—	—	—	13,540	—	—	„ 6 and not exceeding 7 per Cent.
—	—	—	—	13,540	—	5,340	—	„ 7 and not exceeding 8 per Cent.
2,000	—	—	—	—	—	—	5,340	„ 8 and not exceeding 9 per Cent.
50,000	50,000	50,000	40,000	—	—	—	—	„ 9 and not exceeding 10 per Cent.
—	—	—	—	—	—	—	—	„ 10 and not exceeding 11 per Cent.
—	—	—	—	—	—	—	—	„ 11 and not exceeding 12 per Cent.
—	—	—	—	165,000	—	—	—	„ 12 and not exceeding 13 per Cent.
—	—	—	—	—	—	—	—	At 13½ per Cent.
—	—	—	165,000	—	—	—	—	„ 15 „
82,468,624	83,308,853	84,159,138	180,661,942	183,952,776	188,551,901	193,120,889	196,704,719	TOTAL ENGLAND AND WALES.

† Including 356,210*l.* on which dividend accrued from 1st January 1892.

Summary Tables for England and Wales, Scotland,

No. 2.—Amount of Ordinary, Guaranteed, and Preferential Stock and Share Capital of Railway
Years 1888, 1889,

Rate per Cent. of Dividend paid.	SCOTLAND						
	Ordinary.						
	1888.	1889.	1890.	1891.	1892.	1888.	1889.
	£	£	£	£	£	£	£
Capital of New Companies the Lines of which were in course of construction: No Dividend paid	850	32,199	195,676	507,171	838,505		—
4 per Cent. paid	1,825,440	2,125,000	—	—	—	—	—
5 „ „	—	—	—	—	—	—	—
Capital of Constructed Lines upon which no Dividend was paid	4,757,582	4,910,002	4,797,331	4,998,961	4,426,287	—	—
Dividends paid: Not exceeding 1 per Cent.	371,840	200,000	9,355,415	9,163,650	9,548,239	—	—
Exceeding 1 and not exceeding 2 per Cent.	8,771,135	1,081,782	1,358,492	7,129,525	132,435	—	—
„ 2 and not exceeding 3 per Cent.	649,047	13,971,741	6,765,930	1,025,122	6,846,155	—	—
„ 3 and not exceeding 4 per Cent.	12,008,355	7,523,968	9,758,068	7,107,120	3,521,842	12,875,774	12,895,934
„ 4 and not exceeding 5 per Cent.	11,154,802	296,000	11,900,807	15,208,251	20,547,025	614,000	614,000
„ 5 and not exceeding 6 per Cent.	349,950	11,210,277	314,950	314,950	318,550	116,000	116,000
„ 6 and not exceeding 7 per Cent.	140,890	140,890	175,890	140,890	140,890	—	—
„ 7 and not exceeding 8 per Cent.	—	—	—	—	—	—	—
„ 8 and not exceeding 9 per Cent.	—	—	—	—	—	—	—
„ 9 and not exceeding 10 per Cent.	—	—	—	—	—	—	—
„ 10 and not exceeding 11 per Cent.	—	—	—	—	—	—	—
„ 11 and not exceeding 12 per Cent.	—	—	—	—	—	—	—
„ 12 and not exceeding 13 per Cent.	—	—	—	—	—	—	—
At 15 per Cent.	—	—	—	—	—	—	—
Total Scotland	40,029,891	41,491,859	44,622,559	45,595,640	46,319,928	13,605,774	13,625,934

* Including 1,045,000*l.* on which dividend accrued from 1st August 1890.
† Dividend did not accrue until early in 1893.

AND IRELAND FOR THE YEARS 1888 TO 1892—*continued.*

COMPANIES in SCOTLAND, classed according to the Rate per Cent. of Dividend paid, in each of the 1890, 1891, and 1892.

SCOTLAND.								
GUARANTEED.			PREFERENTIAL.					RATE per CENT. of DIVIDEND PAID.
1890.	1891.	1892.	1888.	1889.	1890.	1891.	1892.	
£	£	£	£	£	£	£	£	
—	—	—	—	—	—	—	—	Capital of New Companies the Lines of which were in course of construction: No Dividend paid.
—	—	—	—	—	—	—	—	4 per Cent. paid.
—	—	—	—	—	—	—	—	5 „ „
—	—	—	1,109,000*	1,105,000*	1,012,732†	1,269,000‡	2,493,319§	Capital of Constructed Lines upon which no Dividend was paid.
—	—	—	—	—	62,670	—	—	Dividends paid: Not exceeding 1 per Cent.
—	—	—	55,000	66,070	—	55,000	61,320	Exceeding 1 and not exceeding 2 per Cent.
—	—	—	11,070	—	—	7,560	—	„ 2 and not exceeding 3 per Cent.
12,896,198	12,896,198	12,896,198	24,667,691	25,927,169	25,845,640	26,170,075	26,526,941	„ 3 and not exceeding 4 per Cent.
614,000	614,000	614,000	10,592,805	9,695,152	9,934,925	9,934,925	9,934,925	„ 4 and not exceeding 5 per Cent.
116,000	116,000	116,000	638,939	638,939	638,939	638,939	638,939	„ 5 and not exceeding 6 per Cent.
—	—	—	—	—	—	—	—	„ 6 and not exceeding 7 per Cent.
—	—	—	—	—	—	—	—	„ 7 and not exceeding 8 per Cent.
—	—	—	—	—	—	—	—	„ 8 and not exceeding 9 per Cent.
—	—	—	—	—	—	—	—	„ 9 and not exceeding 10 per Cent.
—	—	—	—	—	—	—	—	„ 10 and not exceeding 11 per Cent.
—	—	—	—	—	—	—	—	„ 11 and not exceeding 12 per Cent.
—	—	—	—	—	—	—	—	„ 12 and not exceeding 13 per Cent.
—	—	—	—	—	—	—	—	At 13 per Cent.
13,626,198	13,626,198	13,626,198	37,074,505	37,432,330	37,494,906	38,075,499	39,655,444	TOTAL SCOTLAND.

‡ Including 1,004,000*l.* on which dividend accrued from 1st February 1893, and 265,000*l.* on which dividend accrued from May 1893.
§ Including 1,004,000*l.* on which dividend accrued from 1st February 1893, 1,124,319*l.* on which dividend accrues from 1st August 1893, and 365,000*l.* on which dividend accrued from 15th May 1893.

Summary Tables for England and Wales, Scotland,

No. 3.—Amount of Ordinary, Guaranteed, and Preferential Stock and Share Capital of Railway
1888, 1889, 1890,

Rate per Cent. of Dividend paid.	IRELAND - - - -						
	Ordinary.						
	1888.	1889.	1890.	1891.	1892.	1888.	1889.
	£	£	£	£	£	£	£
Capital of New Companies the Lines of which were in course of construction : No Dividend paid - - - -	1,780	50,325	107,615	112,080	28,900	3,000	24,720
4 per Cent. paid - - -	231	231	—	—	—	22,595	284,922
5 „ „ - - - -	—	—	—	—	—	213,450	35,000
Capital of Constructed Lines upon which no Dividend was paid - - - -	2,467,819	2,480,930	1,825,061	2,350,812	2,407,560	—	—
Dividends paid: Not exceeding 1 per Cent. - -	283,920	221,657	659,378	271,980	880,260	—	16,500
Exceeding 1 and not exceeding 2 per Cent. - -	700,150	700,150	818,490	700,150	91,812	—	—
„ 2 and not exceeding 3 per Cent - - -	288,000	48,000	89,489	329,489	288,000	—	—
„ 3 and not exceeding 4 per Cent. - -	—	3,658,356	3,695,037	—	41,489	349,029	263,488
„ 4 and not exceeding 5 per Cent. - -	8,347,555	7,748,135	7,667,535	2,697,480	7,667,935	1,198,201	1,482,841
„ 5 and not exceeding 6 per Cent. - -	4,027,928	1,254,558	966,633	9,179,925	4,286,106	—	—
„ 6 and not exceeding 7 per Cent. - -	—	—	—	235,950	295,950	—	—
„ 7 and not exceeding 8 per Cent. - -	—	—	—	—	—	—	—
„ 8 and not exceeding 9 per Cent. - -	—	—	—	—	—	—	—
„ 9 and not exceeding 10 per Cent. - -	350,000	350,000	350,000	350,000	350,000	—	—
„ 10 and not exceeding 11 per Cent. - -	—	—	—	—	—	—	—
„ 11 and not exceeding 12 per Cent. - -	—	—	—	—	—	—	—
„ 12 and not exceeding 13 per Cent. - -	—	—	—	—	—	—	—
At 15 per Cent. - - -	—	—	—	—	—	—	—
Total Ireland -	16,467,383	16,512,342	16,179,238	16,227,866	16,338,012	1,786,275	2,107,471

AND IRELAND, FOR THE YEARS 1888 to 1892—*continued.*

COMPANIES in IRELAND, classed according to the Rate per Cent. of Dividend Paid, in each of the Years 1891, and 1892.

IRELAND.								
GUARANTEED.			PREFERENTIAL.					RATE per CENT. of DIVIDEND PAID.
1890.	1891.	1892.	1888.	1889.	1890.	1891.	1892.	
£	£	£	£	£	£	£	£	Capital of New Companies the Lines of which were in course of construction : No Dividend paid.
113,576	33,200	76,871	—	10,000	—	—	—	
113,225	76,941	24,827	—	—	—	—	—	4 per Cent. paid.
23,000	—	—	—	—	—	—	—	5 „ „
—	51,895	71,640	475,540	431,390	461,390	461,390	481,390	Capital of Constructed Lines upon which no Dividend was paid.
—	—	—	—	—	—	—	—	Dividends paid : Not exceeding 1 per Cent.
—	—	—	—	44,150	—	—	—	Exceeding 1 and not exceeding 2 per Cent.
—	6,000	17,000	—	—	241,035	—	—	„ 2 and not exceeding 3 per Cent.
940,736	1,060,736	1,938,006	4,430,005	4,445,210	4,315,498	4,919,057	5,206,832	„ 3 and not exceeding 4 per Cent.
1,511,558	1,604,796	992,325	2,862,048	2,800,086	2,750,206	2,560,241	2,287,616	„ 4 and not exceeding 5 per Cent.
—	—	—	294,170	294,170	277,150	277,150	277,150	„ 5 and not exceeding 6 per Cent.
—	—	—	—	—	—	—	—	„ 6 and not exceeding 7 per Cent.
—	—	—	—	—	—	—	—	„ 7 and not exceeding 8 per Cent.
—	—	—	—	—	—	—	—	„ 8 and not exceeding 9 per Cent.
—	—	—	—	—	—	—	—	„ 9 and not exceeding 10 per Cent.
—	—	—	—	—	—	—	—	„ 10 and not exceeding 11 per Cent.
—	—	—	—	—	—	—	—	„ 11 and not exceeding 12 per Cent.
—	—	—	—	—	—	—	—	„ 12 and not exceeding 13 per Cent.
—	—	—	—	—	—	—	—	At 15 per Cent.
2,702,095	2,833,568	3,120,669	8,061,763	8,025,006	8,045,279	8,217,838	8,252,988	TOTAL IRELAND.

Summary Tables for England and Wales, Scotland,

No. 4.—Amount of Ordinary, Guaranteed, and Preferential Stock and Share Capital of Railway
the Years 1888, 1889,

Rate per Cent. of Dividend paid.	UNITED KINGDOM - - - - -						
	Ordinary.						
	1888.	1889.	1890.	1891.	1892.	1888.	1889.
	£	£	£	£	£	£	£
Capital of New Companies the Lines of which were in course of construction:							
No Dividend paid - - -	1,729,227	1,812,132	1,818,580	6,174,842	6,630,945	3,000	24,720
3 per Cent. paid - - -	184,372	—	—	—	113,680	—	—
3½ „ „ - - -	141,945	214,252	33,760	73,570	133,720	—	—
4 „ „ - - -	3,893,053	4,404,749	3,563,683	—	—	22,595	284,922
5 „ „ - - -	22,353	24,247	8,577	—	—	213,450	35,000
Capital of Constructed Lines upon which no Dividend was paid - - -	45,467,288	42,675,303	42,857,419	40,831,205	42,957,220	36,200	36,200
Dividends paid :							
Not exceeding 1 per Cent. - -	1,481,921	2,640,187	10,771,297	13,617,611	11,853,913	—	16,500
Exceeding 1 and not exceeding 2 per Cent. - -	11,956,350	2,885,299	3,291,795	9,608,600	9,295,567	101,180	101,180
„ 2 and not exceeding 3 per Cent. - - -	27,837,296	37,397,172	35,742,532	38,506,173	32,369,855	—	—
„ 3 and not exceeding 4 per Cent. - -	20,845,358	20,382,996	26,470,460	44,190,071	52,657,503	54,879,469	54,809,461
„ 4 and not exceeding 5 per Cent. - - -	60,666,097	55,552,172	58,671,584	31,082,100	61,694,511	38,278,935	38,556,952
„ 5 and not exceeding 6 per Cent. - -	80,217,993	66,142,891	24,275,097	29,271,949	80,670,872	4,119,580	4,119,580
„ 6 and not exceeding 7 per Cent. - -	62,026,393	20,645,462	54,967,944	122,832,817	45,152,887	—	—
„ 7 and not exceeding 8 per Cent. - - -	3,032,800	67,413,652	67,478,743	2,740,305	2,068,400	2,000	—
„ 8 and not exceeding 9 per Cent. - - -	—	3,509,510	1,027,800	252,000	575,583	200	2,000
„ 9 and not exceeding 10 per Cent. - -	1,041,160	350,000	1,090,882	1,179,820	1,526,220	50,000	50,000
„ 10 and not exceeding 11 per Cent. - - -	—	—	—	—	—	—	—
„ 11 and not exceeding 12 per Cent. - -	—	—	—	—	—	—	—
„ 12 and not exceeding 13 per Cent. - - -	—	179,534	—	—	—	—	—
At 13½ per Cent. - - -	—	—	—	—	—	—	—
„ 15 „ - - - - -	1,794,840	—	—	—	—	—	—
Total United Kingdom -	322,338,446	326,229,558	332,070,153	340,361,063	347,700,876	97,706,609	98,036,515

† Including £350,000 on which dividend accrued from 1st January 1893.

AND IRELAND, FOR THE YEARS 1888 to 1892—*continued.*

COMPANIES in the UNITED KINGDOM, classed according to the Rate per Cent. of Dividend Paid, in each of 1890, 1891, and 1892.

UNITED KINGDOM.								
GUARANTEED.			PREFERENTIAL.					RATE per CENT. of DIVIDEND PAID.
1890.	1891.	1892.	1888.	1889.	1890.	1891.	1892.	
£	£	£	£	£	£	£	£	
113,576	59,020	243,121	307,605	360,630	18,080	4,050,342	4,295,395	Capital of New Companies the Lines of which were in course of construction: No Dividend paid.
—	—	—	—	—	—	—	—	3 per Cent. paid.
145,000	220,000	—	—	—	—	—	—	3½ „ „
113,225	76,941	24,827	2,970,790	2,392,751	3,398,866	—	—	4 „ „
23,000	—	—	38,820	—	—	—	—	5 „ „
66,000	88,095	487,640†	11,599,967*	12,217,178*	11,059,596*	11,489,017*	12,653,994*	Capital of Constructed Lines upon which no Dividend was paid.
—	—	—	1,650,000	370,000	470,137	100,000	100,000	Dividends paid: Not exceeding 1 per Cent.
101,180	101,180	201,180	288,000	215,990	1,660,000	175,564	192,320	Exceeding 1 and not exceeding 2 per Cent.
—	6,000	17,000	771,704	1,377,403	1,561,893	2,180,836	2,905,000	„ 2 and not exceeding 3 per Cent.
55,481,315	55,599,006	57,640,411	150,471,582	156,426,730	153,139,407	165,149,339	168,808,071	„ 3 and not exceeding 4 per Cent.
38,582,041	38,674,797	38,120,246	53,569,207	52,576,786	59,478,843	52,972,044	53,160,267	„ 4 and not exceeding 5 per Cent.
4,119,580	4,891,580	4,121,580	3,925,535	3,294,104	3,291,724	3,291,744	2,492,764	„ 5 and not exceeding 6 per Cent.
—	2,000	—	—	—	13,540	—	—	„ 6 and not exceeding 7 per Cent.
—	—	—	—	13,540	—	5,340	—	„ 7 and not exceeding 8 per Cent.
2,000	—	—	—	—	—	—	5,340	„ 8 and not exceeding 9 per Cent.
50,000	50,000	50,000	40,000	—	—	—	—	„ 9 and not exceeding 10 per Cent.
—	—	—	—	—	—	—	—	„ 10 and not exceeding 11 per Cent.
—	—	—	—	—	—	—	—	„ 11 and not exceeding 12 per Cent.
—	—	—	—	165,000	—	—	—	„ 12 and not exceeding 13 per Cent.
—	—	—	—	—	—	—	—	At 13½ per Cent.
—	—	—	165,000	—	—	—	—	„ 15 „
98,796,917	99,768,619	100,906,005	225,798,210	229,410,112	234,092,086	239,414,226	244,613,151	TOTAL UNITED KINGDOM.

* *See* notes, pp. vii., viii., and ix.

Summary Tables for England and Wales, Scotland,

No. 5.—Amount of Loans and Debenture Stock of Railway Companies in England and Wales, classed

Rate per Cent. of Interest.	England and Wales — Loans.				
	1888.	1889.	1890.	1891.	1892.
	£	£	£	£	£
Not entitled to Interest	—	—	—	—	—
Rate of Interest: Not exceeding 1 per Cent.	—	—	—	—	—
Exceeding 1 and not exceeding 2 per Cent.	—	—	—	—	—
„ 2 and not exceeding 3 per Cent.	96,800	260,307	346,869	333,667	328,597
„ 3 and not exceeding 4 per Cent.	3,376,056	4,376,026	4,256,135	4,537,662	4,477,185
„ 4 and not exceeding 5 per Cent.	4,507,696	2,156,075	2,234,440	3,430,610	4,909,895
„ 5 and not exceeding 6 per Cent.	101,350	169,258	164,030	129,180	125,380
„ 6 and not exceeding 7 per Cent.	—	—	—	—	—
„ 7 and not exceeding 8 per Cent.	5,800	5,800	5,800	5,800	5,800
Total England and Wales	8,087,702	6,967,466	7,007,274	8,436,919	9,846,857

No. 6.—Amount of Loans and Debenture Stock of Railway Companies in Scotland, classed according

Rate per Cent. of Interest.	Scotland — Loans.				
	1888.	1889.	1890.	1891.	1892.
	£	£	£	£	£
Not entitled to Interest	—	—	—	—	—
Rate of Interest: Not exceeding 1 per Cent.	—	—	—	—	—
Exceeding 1 and not exceeding 2 per Cent.	—	—	—	—	—
„ 2 and not exceeding 3 per Cent.	73,338	121,511	141,690	135,425	132,607
„ 3 and not exceeding 4 per Cent.	1,531,724	1,183,245	957,622	853,964	884,806
„ 4 and not exceeding 5 per Cent.	128,689	127,510	112,060	43,510	43,060
„ 5 and not exceeding 6 per Cent.	—	—	—	—	—
Total Scotland	1,733,751	1,432,266	1,211,372	1,032,899	1,060,473

AND IRELAND, FOR THE YEARS 1888 to 1892—*continued.*

according to the Rate per Cent. of Interest at which borrowed, in each of the Years 1888, 1889, 1890, 1891, and 1892.

ENGLAND AND WALES.

Debenture Stock.					Rate per Cent. of Interest.
1888.	1889.	1890.	1891.	1892.	
£ —	£ —	£ —	£ —	£ —	Not entitled to Interest.
					Rate of Interest :
—	417,365	417,365	417,365	367,365	Not exceeding 1 per Cent.
131,901	131,901	131,901	131,901	79,071	Exceeding 1 and not exceeding 2 per Cent.
1,979,555	6,715,071	31,682,247	44,466,079	48,487,673	„ 2 and not exceeding 3 per Cent.
127,858,277	129,257,752	113,266,257	104,808,667	106,347,038	„ 3 and not exceeding 4 per Cent.
45,241,093	44,111,588	43,748,570	44,398,864	44,612,686	„ 4 and not exceeding 5 per Cent.
1,914,969	1,486,012	1,486,012	1,486,012	1,486,012	„ 5 and not exceeding 6 per Cent.
—	—	—	—	—	„ 6 and not exceeding 7 per Cent.
5,400	5,400	5,400	5,400	5,400	„ 7 and not exceeding 8 per Cent.
177,131,195	182,125,089	190,737,752	195,714,288	201,385,245	Total England and Wales.

to the Rate per Cent. of Interest at which borrowed, in each of the Years 1888, 1889, 1890, 1891, and 1892.

SCOTLAND.

Debenture Stock.					Rate per Cent. of Interest.
1888.	1889.	1890.	1891.	1892.	
£ —	£ —	£ —	£ —	£ —	Not entitled to Interest.
					Rate of Interest :
—	—	—	—	—	Not exceeding 1 per Cent.
—	—	—	—	—	Exceeding 1 and not exceeding 2 per Cent.
73,538	73,538	73,537	73,537	12,221,735	„ 2 and not exceeding 3 per Cent.
19,520,473	19,845,863	21,028,838	22,044,051	15,442,354	„ 3 and not exceeding 4 per Cent.
2,082,187	2,082,187	2,082,187	2,082,187	390,033	„ 4 and not exceeding 5 per Cent.
—	—	—	—	—	„ 5 and not exceeding 6 per Cent.
21,676,198	22,001,588	23,184,562	24,199,775	28,054,122	Total Scotland.

Summary Tables for England and Wales,

No. 7.—Amount of Loans and Debenture Stock of Railway Companies in Ireland, classed according

Rate per Cent. of Interest.	IRELAND — Loans.				
	1888.	1889.	1890.	1891.	1892.
	£	£	£	£	£
Not entitled to Interest	—	—	—	—	300
Rate of Interest:					
Not exceeding 1 per Cent.	—	—	—	—	—
Exceeding 1 and not exceeding 2 per Cent.	—	—	—	—	—
„ 2 and not exceeding 3 per Cent.	—	—	—	—	—
„ 3 and not exceeding 4 per Cent.	860,851	799,368	730,094	775,290	820,456
„ 4 and not exceeding 5 per Cent.	393,185	388,811	375,645	315,360	271,415
„ 5 and not exceeding 6 per Cent.	15,800	15,800	15,800	15,800	15,800
Total Ireland	1,269,836	1,203,979	1,121,539	1,106,450	1,107,971

No. 8.—Amount of Loans and Debenture Stock of Railway Companies in the United Kingdom, classed

Rate per Cent. of Interest.	UNITED KINGDOM — Loans.				
	1888.	1889.	1890.	1891.	1892.
	£	£	£	£	£
Not entitled to Interest	—	—	—	—	300
Rate of Interest:					
Not exceeding 1 per Cent.	—	—	—	—	—
Exceeding 1 and not exceeding 2 per Cent.	—	—	—	—	—
„ 2 and not exceeding 3 per Cent.	170,138	381,818	488,559	469,092	461,204
„ 3 and not exceeding 4 per Cent.	5,768,631	6,358,639	5,943,851	6,166,916	6,182,447
„ 4 and not exceeding 5 per Cent.	5,029,570	2,672,396	2,722,145	3,789,480	5,224,370
„ 5 and not exceeding 6 per Cent.	117,150	185,058	179,830	144,980	141,180
„ 6 and not exceeding 7 per Cent.	—	—	—	—	—
„ 7 and not exceeding 8 per Cent.	5,800	5,800	5,800	5,800	5,800
Total United Kingdom	11,091,289	9,603,711	9,340,185	10,576,268	12,015,301

SCOTLAND, AND IRELAND, FOR THE YEARS 1888 to 1892—*continued.*

to the Rate per Cent. of Interest at which borrowed, in each of the Years 1888, 1889, 1890, 1891, and 1892.

IRELAND.					
DEBENTURE STOCK.					RATE per CENT. of INTEREST.
1888.	1889.	1890.	1891.	1892.	
£	£	£	£	£	
—	—	—	—	—	Not entitled to Interest.
					Rate of Interest:
—	—	—	—	—	Not exceeding 1 per Cent.
—	—	—	—	—	Exceeding 1 and not exceeding 2 per Cent.
291,453	291,453	291,453	291,453	291,453	„ 2 and not exceeding 3 per Cent.
5,626,893	5,656,173	5,714,991	5,874,813	6,164,614	„ 3 and not exceeding 4 per Cent.
3,035,670	3,240,967	3,243,927	3,224,616	3,226,553	„ 4 and not exceeding 5 per Cent.
—	—	—	—	—	„ 5 and not exceeding 6 per Cent.
8,954,016	9,188,593	9,250,371	9,390,882	9,682,620	TOTAL IRELAND.

according to the Rate per Cent. of Interest at which borrowed, in each of the Years 1888, 1889, 1890, 1891, and 1892.

UNITED KINGDOM.					
DEBENTURE STOCK.					RATE per CENT. of INTEREST.
1888.	1889.	1890.	1891.	1892.	
£	£	£	£	£	
—	—	—	—	—	Not entitled to Interest.
					Rate of Interest:
—	417,365	417,365	417,365	367,365	Not exceeding 1 per Cent.
131,901	131,901	131,901	131,901	79,071	Exceeding 1 and not exceeding 2 per Cent.
2,344,546	7,080,062	32,047,237	44,831,069	61,000,861	„ 2 and not exceeding 3 per Cent.
153,005,643	154,759,788	140,010,086	132,727,531	127,954,006	„ 3 and not exceeding 4 per Cent.
50,358,950	49,434,742	49,074,684	49,705,667	48,229,272	„ 4 and not exceeding 5 per Cent.
1,914,969	1,486,012	1,486,012	1,486,012	1,486,012	„ 5 and not exceeding 6 per Cent.
—	—	—	—	—	„ 6 and not exceeding 7 per Cent.
5,400	5,400	5,400	5,400	5,400	„ 7 and not exceeding 8 per Cent.
207,761,409	213,315,270	223,172,685	229,304,945	239,121,987	TOTAL UNITED KINGDOM.

SUMMARY TABLES for ENGLAND and

No. 1.—CAPITAL

	AUTHORISED CAPITAL.			PAID-UP STOCK	
	By Shares and Stock.	By Loans and Debenture Stock.	TOTAL.	Ordinary.	Guaranteed.
	£	£	£	£	£
ENGLAND AND WALES	627,229,282	241,483,285	868,712,567	285,042,936 *12,505,199*	84,159,138 *6,476,834*
SCOTLAND	106,819,366	32,675,440	139,494,806	46,319,928 *12,390,811*	13,626,198 *2,721,650*
IRELAND	31,473,961	12,925,331	44,399,292	16,338,012 —	3,120,669 *141,854*
TOTAL UNITED KINGDOM	765,522,609	287,084,056	1,052,606,665	347,700,876 *25,896,010*	100,906,005 *9,340,338*

No. 2.—TRAFFIC

	Length of Line in Miles open on 31st December 1892.			PASSENGER TRAFFIC.					GOODS TRAFFIC.		NUMBER OF MILES TRAVELLED BY TRAINS.		
				Number of Passengers conveyed (exclusive of Season and Periodical Tickets).				Holders of Season or Periodical Tickets.					
	Double or more.	Single.	Total.	1st Class.	2nd Class.	3rd Class (including Parliamentary).	TOTAL.		Minerals.	General Merchandise.	Passenger Trains.	Goods and Mineral Trains.	TOTAL.
ENGLAND AND WALES	9,253	4,989	14,242	24,906,934	56,932,213	680,791,819	762,630,966	1,511,972	*Tons.* 185,327,982	*Tons.* 75,148,521	147,505,521	125,693,764	*273,614,733
									13,680				
SCOTLAND	1,297	1,891	3,188	4,191,964	726,845	74,238,603	79,157,412	72,302	31,492,068	10,322,668	19,620,603	18,296,240	+40,005,906
IRELAND	608	2,287	2,895	1,503,126	4,188,755	16,951,829	22,647,010	28,236	1,252,711	2,999,418	8,799,598	4,483,398	‡14,193,967
									69,327				
TOTAL UNITED KINGDOM	11,158	9,167	20,325	30,602,324	61,847,813	771,985,251	864,435,388	1,612,510	221,072,761	88,470,607	175,925,722	148,473,402	§327,814,606
									83,007				

* Including 415,448 miles run by mixed trains.

† Including 2,089,063 miles run by mixed trains.

No. 3.—WORKING EXPENDITURE, NET RECEIPTS, AND ROLLING STOCK.

	Length of Line in Miles open on 31st December 1892.	WORKING EXPENDITURE									
		Maintenance of Way, Works, &c.	Locomotive Power (including Stationary Engines).	Repairs and Renewals of Carriages and Waggons.	Traffic Expenses (Coaching and Merchandise).	General Charges.	Rates and Taxes.	Government Duty.	Compensation for Personal Injuries, &c.	Compensation for Damage and Loss of Goods.
	No.	£	£	£	£	£	£	£	£	£
ENGLAND AND WALES	14,242	6,200,678	10,814,229	3,420,238	12,224,031	1,653,764	2,077,268	288,181	177,376	250,358
			57,698		1,133					
SCOTLAND	3,188	801,607	1,277,187	483,483	1,440,637	189,570	210,967	23,726	17,383	23,054
IRELAND	2,895	401,287	477,800	137,664	482,886	100,440	80,323	—	4,243	7,408
TOTAL UNITED KINGDOM	20,325	7,403,572	12,569,216	4,041,385	14,147,554	1,943,774	2,368,558	311,907	199,002	280,820
			57,698		1,133					

* Exclusive of 54,026*l.* received by the North London Company for working other lines.

WALES, SCOTLAND, and IRELAND in 1892.

No. 1.—CAPITAL.

AND SHARE CAPITAL.		CAPITAL RAISED BY LOANS AND DEBENTURE STOCK.			TOTAL CAPITAL paid up and raised by Loans and Debenture Stock.	SUBSCRIPTIONS TO OTHER COMPANIES.
Preferential.	TOTAL Paid-up Stock and Share Capital.	Loans.	Debenture Stock.	TOTAL raised by Loans and Debenture Stock.		
£	£	£	£	£	£	£
196,704,719 *18,218,923*	565,906,793 *32,795,956*	9,846,857 —	201,385,245 *11,679,348*	211,232,102 *11,679,348*	777,138,895 *44,475,304*	31,350,275
39,655,444 *4,501,728*	99,601,570 *20,114,189*	1,060,473 —	28,054,122 *3,315,786*	29,114,595 *3,315,786*	128,716,165 *23,429,975*	2,230,898
8,252,988 *64,886*	27,711,669 *203,739*	1,107,971 —	9,682,620 —	10,790,591 —	38,502,260 *203,739*	285,696
244,613,151 *18,277,536*	693,220,032 *53,113,884*	12,015,301 —	239,121,987 *14,995,134*	251,137,288 *14,995,134*	944,357,320 *68,109,018*	33,866,869

No. 2.—TRAFFIC.

RECEIPTS (GROSS) FROM PASSENGER TRAFFIC.								RECEIPTS (GROSS) FROM GOODS TRAFFIC.				Miscellaneous, Rents, Tolls, Navigation, Steamboats, &c.	TOTAL RECEIPTS FROM ALL SOURCES OF TRAFFIC.
RECEIPTS FROM PASSENGERS.					Excess Luggage, Parcels, Carriages, Horses, Dogs, &c.	Mails.	TOTAL Receipts from Passenger Traffic.	Merchandise.	Live Stock.	Minerals.	TOTAL Receipts from Goods Traffic.		
1st Class.	2nd Class.	3rd Class (including Parliamentary).	Holders of Season or Periodical Tickets.	TOTAL from Passengers.									
£	£	£	£	£	£	£	£	£	£	£	£	£	£
2,583,280	2,049,351	19,087,641	2,242,254	25,962,526	3,795,933	599,284	30,357,743	20,122,011	880,884	15,279,696	36,282,591	3,212,024	69,852,358
366,555	31,348	2,285,911	234,681	2,918,495	473,190	203,550	3,595,235	2,544,708	208,001	2,412,957	5,165,666	301,030	9,061,931
171,793	295,669	843,403	61,017	1,371,882	181,146	156,810	1,709,838	1,012,951	252,481	152,809	1,418,241	49,672	3,177,751
3,121,628	2,376,368	22,216,955	2,537,952	30,252,903	4,450,269	959,644	35,662,816	23,679,670	1,341,366	17,845,462	42,866,498	3,562,726	82,092,040

‡ Including 910,971 miles run by mixed trains.

§ Including 3,415,482 miles run by mixed trains.

No. 3.—WORKING EXPENDITURE, NET RECEIPTS, AND ROLLING STOCK.

WORKING EXPENDITURE.				TOTAL RECEIPTS, as given in the Traffic Return, No. 2.	NET RECEIPTS.	Proportion per Cent. of Expenditure to Receipts.	ROLLING STOCK on 31st December 1892.					
								CARRIAGES, WAGGONS, TRUCKS, &c.				
Legal and Parliamentary Expenses.	Steamboat, Canal, and Harbour Expenses.	Miscellaneous Working Expenditure not included in the foregoing.	TOTAL Working Expenditure.				Locomotives.	Carriages used for the Conveyance of Passengers only.	Other Vehicles attached to Passenger Trains.	Waggons of all kinds used for the Conveyance of Live Stock, Minerals, or General Merchandise.	Any other Carriages or Waggons used on the Railway, not included in the preceding Columns.	TOTAL NUMBER of Vehicles of all descriptions for Conveyance of Passengers, Live Stock, Ballast, &c.
£	£	£	£	£	£		*No.*	*No.*	*No.*	*No.*	*No.*	*No.*
234,138	1,550,388	355,823	*39,250,277	†69,852,358	†30,602,081	56	14,840	34,052	12,127	439,109	10,913	496,201
28,948	111,093	122,522	4,730,177	9,061,931	4,331,754	52	1,880	4,349	1,629	120,580	1,261	127,819
16,677	13,352	15,431	1,737,511	3,177,751	1,440,240	55	719	1,678	985	15,747	437	18,847
279,763	1,674,833	493,776	*45,717,965	†82,092,040	†36,374,075	56	17,439	40,079	14,741	575,436	12,611	642,867

† Exclusive of 15,715*l.* received by the South-Eastern Company from the London, Brighton, and South Coast Company ; *see* note, page 77.

RAILWAY RETURNS.—1892.

No. 1.—CAPITAL, &c.

RETURN of the authorised SHARE and LOAN CAPITAL of the several RAILWAY COMPANIES in ENGLAND and WALES, SCOTLAND, and IRELAND, and of their PAID-UP ORDINARY, GUARANTEED, and PREFERENTIAL CAPITAL, and DEBENTURE STOCK or FUNDED DEBT, on the 31st day of December 1892, specifying the rate per cent. of the Dividends for the year 1892 on each of the said Capitals; showing also the Loans outstanding on the 31st day of December 1892, classified according to the several rates per cent. of Interest; and the Capital subscribed to other undertakings, whether such undertakings are on lease to, or worked by, the subscribing Company, or are independent.

NOTE.—The figures in *italics* in the following pages from 2 to 45 show the amounts by which the Capitals of the Railway Companies have been nominally increased on the conversion, consolidation, and division of their Stocks. In some cases the consolidation resulted in a nominal decrease, and the amounts by which the Capitals were so decreased are specially noted. The amounts of Capital printed in Roman type include the nominal additions and show the sums receiving the rates of dividend stated against them.

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No. 1.—AMOUNT of CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL.			PAID-UP STOCK AND				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Abbotsbury	*Worked by the Great Western.*							
Aberdare	*Leased to the Taff Vale.*							
Abingdon	*Leased to the Great Western.*							
Alexandra (Newport and South Wales) Docks and Railway.	1,410,000	445,000	1,855,000	342,580	Nil	—	—	—
				—	—	—	—	—
Bala and Festiniog	*Worked by the Great Western.*							
Banbury and Cheltenham Direct	*Worked by the Great Western.*							
Barnoldswick	*Worked by the Midland.*							
Barry	2,090,000	680,000	2,770,000	881,240 119,980	9½ 9½	—	—	—
Bexley Heath	226,000	75,200	301,200	56,140	Nil	66,250	3	Nil
Birkenhead (vested jointly in the Great Western and London and North-Western).	2,550,000	—*	2,550,000	1,941,506 134,316†	4 Nil	—	—	—
Birmingham and Henley in Arden	30,000	10,000	40,000	800	Nil	—	—	—
Bishop's Castle	472,000	157,000	629,000	133,259	Nil	—	—	—
Blackpool	510,000	170,000	680,000	—	—	—	—	—
Brading Harbour Improvement and Railway	*Worked by the Isle of Wight.*							
Brean Down Harbour and Railway	348,000	116,000	464,000	—	—	—	—	—
Brecon and Merthyr Tydfil Junction	1,222,500	903,735	2,126,235	264,360	Nil	—	—	—
				—	—	—	—	—
Bridgwater	135,000	45,000	180,000	75,000	1⅓	—	—	—
Bridport	*Leased to the Great Western.*							
Brighton and Dyke	*Worked by the London, Brighton, and South Coast.*							
Brighton, Rottingdean, and Newhaven Direct	210,000	70,000	280,000	—	—		—	—
Buckfastleigh, Totnes, and South Devon	*Worked by the Great Western.*							
Buckley	*Worked by the Wrexham, Mold, and Connah's Quay.*							
Burry Port and Gwendreath Valley	59,650	90,350	150,000	13,540	Nil	—	—	—
				121,860†	—	—	—	—

31st December 1892.—ENGLAND AND WALES.

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

Share Capital.				Capital raised by Loans and Debenture Stock.					Total Capital paid up and raised by Loans and Debenture Stock.	Subscriptions to other Companies.	Remarks.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
515,000 350,787	4½ 4½	4½ 4½	1,208,367	—	—	395,000	4	395,000	1,603,367	—	In addition to paying interest on capital the Company paid 5,401*l.* for Royalties.
192,205	*4½*	*4½*	*192,205*	—	—	—	–	—	*192,205*	—	
598,760 210,000 150,000	5 5 5	5 5 5	1,909,980	17,825*	4	80,000 532,175	3½ 4	630,000	2,539,980	—	* Capitalized value of Rentcharges.
—	–	–	122,390	—	–	—	–	—	122,390	—	
474,178	4½	4½	2,550,000	—	–	—	–	—	2,550,000	—	* Borrowing powers assumed in equal proportions by the Companies in which the line is vested. † Calls received on forfeited shares, in respect of which no dividend is paid.
—	–	–	800	—	–	—	–	—	800	—	
86,750	5	Nil	220,009	60,000 28,000 1,700	5 5 6	—	–	89,700	309,709	—	
—	–	–	—	—	–	–	–	—	–	—	
—	–	–	—	—	–	—	–	—	—	—	
46,500* 806,831	5 5	5 Nil	1,117,691	14,075†	5	830,264	4	844,339	1,962,030	—	* Rumney preference shares. † Capitalized value of Land Rentcharges. ‡ Nominal decrease.
—	–	–	—	—	–	*46,118*‡	–	*46,118*‡	*46,118*‡	—	
60,000	4½	4½	135,000	—	–	45,000	4	45,000	180,000	—	The line is worked by the "Midland" and "London and South-Western" Companies' Joint Committee for working the Somerset and Dorset line.
—	–	–	—	—	–	—	–	—	—	—	
33,080	5	Nil	46,620	4,500 10,000 16,500 4,045*	4 5 6 5	40,168	4	75,213	121,833	—	* Capitalized value of Land Rentcharges. † Nominal decrease of capital.
16,740†	–	–	*138,600*†	—	—	—	—	—	*138,600*†	—	

No. 1.—AMOUNT of CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL.			PAID-UP STOCK AND				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Calne	Amalgamated with the Great Western under Act 55 & 56 Vict. c. 233.							
Cambrian	2,664,757	*2,278,596	4,943,353	949,858	Nil	—	—	—
				—	—	—	—	—
Worked by the Cambrian. Mid Wales	812,600	315,706	1,128,306	404,040	Nil	—	—	—
Cannock Chase and Wolverhampton	80,000	26,600	106,600	70,500	Nil	—	—	—
Central London	2,850,000	950,000	3,800,000	400	Nil	—	—	—
Charnwood Forest	*Worked by the London and North-Western.*							
Cheadle Railway, Mineral, and Land Co., Limited.	250,000	135,000	385,000	40,250	Nil	—	—	—
Cheltenham Station	20,000	—	20,000	18,230	Nil	—	—	—
Cheshire Lines Committee (Consisting of the "Great Northern," "Manchester, Sheffield, and Lincolnshire," and "Midland" Railway Companies.) Incorporated by The Cheshire Lines Act, 1867.	—*	—*	—*	—	—	—	—	—
Southport and Cheshire Lines Extension	385,000	206,000	591,000	288,000	Nil	—	—	—
				15,000	*Nil*	—	—	—
City and South London	800,000	225,000	1,025,000	630,000	$\frac{9}{16}$	—	—	—
Cleator and Workington Junction	517,200	172,400	689,600	216,010	Nil	—	—	—
Cleveland Extension Mineral	220,000	72,600	292,600	68,678	Nil	—	—	—
Cockermouth, Keswick, and Penrith	284,000	93,000	377,000	259,000	$4\frac{7}{8}$	—	—	—
Colchester, Stour Valley, Sudbury, and Halstead.	*Leased to the Great Eastern.*							
Collingbourne and Avon Valley	24,000	8,000	32,000	—	—	—	—	—
Colne Valley and Halstead	86,790	427,235	514,025	61,200	Nil	—	—	—
Cornwall Minerals	*Worked by the Great Western.*							
Corris	15,000	5,000	20,000	15,000	$3\frac{3}{8}$	—	—	—
Corwen and Bala	*Leased to the Great Western.*							
Cowbridge and Aberthaw	*Worked by the Taff Vale.*							
Cranbrook and Paddock Wood (Light)	*Worked by the South-Eastern.*							
Croydon and Oxted Joint Committee	Line owned jointly by the "London, Brighton, and South Coast" and "South-Eastern"							
Crowland	30,000	10,000	40,000	2,312	Nil	—	—	—
Devon and Somerset	*Worked by the Great Western.*							
Didcot, Newbury, and Southampton	1,080,760	315,920	1,396,680	307,034	Nil	—	—	—
Dover and Deal Committee	The line is the joint property of the "London, Chatham, and Dover" and "South-							
Dowlais	—	—	—	—	—	—	—	—
Dowlais Extension	—	—	—	—	—	—	—	—

31st December 1892.—ENGLAND AND WALES—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

SHARE CAPITAL.				CAPITAL RAISED BY LOANS AND DEBENTURE STOCK.					TOTAL CAPITAL paid up and raised by Loans and Debenture Stock.	SUBSCRIPTIONS TO OTHER COMPANIES.	REMARKS.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
1,555,617	4	Nil	2,505,475	49,928†	4	2,155,760	4	2,205,688	4,711,163	—	*Exclusive of amount authorised to be raised by Certificates of the Board of Trade, viz., 95,829*l.*
129,757	*4*	*Nil*	*129,757*	—	–	*151,449*	*4*	*151,449*	*281,206*	—	† Capitalized value of Land Rentcharges.
200,000	5	Nil	806,640	—	–	32,267	4	315,706	1,122,346	—	
90,000	5	Nil				283,439	4½				
112,600	5	Nil									
—	–	–	70,500	20,100	6	—	–	20,100	90,600	—	
—	–	–	400	—	–	—	–	—	400	—	
—	–	–	40,250	50,100	6	11,486	5	61,586	101,836	—	
—	–	–	18,230	—	–	—	–	—	18,230	—	
—	–	–	—	—	–	—	–	—	—	—	* The Capital is provided by the three Companies owning the line in equal proportions, and is included in their returns.
75,000	2½	1¼	363,000	—	–	198,400	3	198,400	561,400	—	
—	–	–	*15,000*	—	–	—	–	—	*15,000*	—	
58,680	5	5	688,680	131,300	5	37,600	4	168,900	857,580	—	
167,700	4	3 7/8	453,710	88,715	3½	—	–	137,550	591,260	—	* Part of these shares were not paid in full until October 1892, and the dividend on partly paid-up shares for the year was at the rate of 3*l.* 10*s.* 9½*d.* per cent. per annum. On fully paid-up shares the full rate of dividend was paid, viz., 4½ per cent. per annum.
60,000	4½	3 19/20		6,500	3 5/8						
10,000*	4½	–		42,335	4						
—	–	–	68,678	—	–	—	–	—	68,678	—	
25,000	5	5	284,000	—	–	82,750	4	82,750	366,750	—	
—	–	–	—	—	–	—	–	—	—	—	
25,590	5	Nil	86,790	1,920*	5	367,365	1/8	423,185	509,975	—	* Capitalized value of Land Rentcharges.
						53,900	5				
—	–	–	15,000	—	–	4,950	5	4,950	19,950	—	
Railway Companies; the Capital is included in the Returns of those Companies.											
—	–	–	2,312	—	–	—	–	—	2,312	—	
638,819	5	Nil	945,853	87,370	4	166,000	5	294,880	1,240,733	—	Line worked by the "Great Western" and the "London and South-Western" Companies.
				30,630	5						
				10,880	6						
Eastern" Railway Companies; the Capital is included in the Returns of those Companies.											
—	–	–	—	—	–	—	–	—	—	—	The Railway is the property of the Dowlais Iron Company. There is no separate Capital for the Railway.
—	–	–	—	—	–	—	–	—	—	—	

No. 1.—Amount of Capital, &c., upon the

Note.—The figures in *italics* show the amounts (included in the figures in Roman type) by

Name of Company.	Authorised Capital.			Paid-up Stock and				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Downham and Stoke Ferry	*Leased to the Great Eastern.*							
Easingwold	12,000	4,000	16,000	11,767	Nil	—	—	—
East and West Junction	300,000	698,688	998,688	300,000	Nil	—	—	—
Evesham, Redditch, and Stratford-upon-Avon Junction.	90,000	50,000	140,000	45,000	Nil	—	—	—
Stratford-upon-Avon, Towcester, and Midland Junction.	193,450	200,000	393,450	160,000	Nil	—	—	—
East and West Yorkshire Union	150,000	50,000	200,000	76,887	4	—	—	—
East Cornwall Mineral (Calstock to Callington.)	The line is stated to have been sold to the Plymouth, Devonport, and South-Western							
Eastern and Midlands: Lynn, Yarmouth, and Norwich Section	*See* note, page iii.							
East Lincolnshire	*Leased to the Great Northern.*							
East London	3,245,000	2,579,000	5,824,000	3,240,799	Nil	—	—	—
				840,599	*Nil*	—	—	—
Easton and Church Hope	120,000	39,900	159,900	29,727	Nil	—	—	—
East Usk	Amalgamated with the Great Western under Act 55 and 56 Vict. c. 233.							
Ely and Newmarket	*Leased to the Great Eastern.*							
Ely and St. Ives	*Worked by the Great Eastern.*							
Ely Valley	*Worked by the Great Western.*							
Epsom Downs Extension	75,000	24,500	99,500	6,500	Nil	—	—	—
Evesham, Redditch, and Stratford-upon-Avon Junction.	*Worked by the East and West Junction and Stratford-upon-Avon, Towcester, and Midland*							
Exeter, Teign Valley, and Chagford	240,000	80,000	320,000	—	—	—	—	—
Exmouth Docks and Railway	60,000	15,000	75,000	60,000	Nil	—	—	—
Felixstowe Dock and Railway	150,000	50,000	200,000	130,000	Nil	—	—	—
Festiniog*	176,186	44,000	220,186	86,186	3½	—	—	—
Filey Pier and Tramroad	45,000	15,000	60,000	—	—	—	—	—
Forcett	34,200	11,400	45,600	34,200	3¼	—	—	—
Forest of Dean Central	*Worked by the Great Western.*							
Freshwater, Yarmouth, and Newport	*Worked by the Isle of Wight Central.*							
Furness	5,271,875	1,636,566	6,908,441	2,642,000	1½	779,125	4	4
				—	—	*264,625*	*4*	*4*
Garstang and Knot End	90,000	30,000	120,000	60,000	Nil	—	—	—
Glyn Valley Tramway	55,000	18,300	73,300	24,295	Nil	—	—	—

31st December 1892.—ENGLAND AND WALES—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

Share Capital.				Capital raised by Loans and Debenture Stock.					Total Capital paid up and raised by Loans and Debenture Stock.	Subscriptions to other Companies.	Remarks.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
—	—	—	11,767	4,000	4	—	—	4,000	15,767	—	
—	—	—	300,000	—	—	399,901 268,787	5 6	668,688	968,688	—	The lines of the Companies are worked by a joint committee of the "East and West Junction" and "Stratford-upon-Avon, Towcester, and Midland Junction" Companies.
45,000	5	Nil	90,000	30,000	5	10,900	4	40,900	130,900	—	
15,350	5	Nil	175,350	—	—	199,005	5	199,005	374,355	160,000	
—	—	—	76,887	25,000	4½	—	—	25,000*	101,887*	—	* The Company have granted Land Rentcharges of the capitalized value of 7,650*l.*
Junction, under Act 54 & 55 Vict. c. 113.											
—	—	—	3,240,799	—	—	250,000 172,920 2,126,546	2½ 3½ 4	2,549,466	5,790,265	—	
—	—	—	*840,599*	—	—	*125,000* *407,101*	2½ *4*	*532,101*	*1,372,700*	—	
33,920	5	Nil	63,647	—	—	10,000	4½	10,000	73,647	—	By an Act obtained in 1892, the Company is authorized to re-arrange its capital as under: Ordinary shares - £30,000 5 per cent. Preference Shares - - 59,900 4½ per cent. Debenture Stock - - - 70,000 Total - 159,900
—	—	—	6,500	—	—	—	—	—	6,500	—	
Junction Railway Companies' Joint Committee.											
—	—	—	—	—	—	—	—	—	—	—	
—	—	—	60,000	15,000	5	—	—	15,000	75,000	—	
—	—	—	130,000	—	—	—	—	—	130,000	—	
10,000 40,000	4½ 5	4½ 5	136,186	—	—	1,000 12,000	4 4¼	13,000	149,186	—	* In addition to paying interest on Capital, the Company paid 1,363*l.* for rents and tonnages.
—	—	—	—	—	—	—	—	—	—	—	
—	—	—	34,200	2,930 920 2,325*	4 4½ 5	—	—	6,175	40,375	—	* Capitalized value of Rentcharges.
1,840,086	4	4	5,261,211	—	—	1,569,457	4	1,569,457	6,830,668	—	
213,750	*4*	*4*	*478,375*	—	—	—	—	—	*478,375*	—	
19,410	5	Nil	79,410	16,100 3,407*	5 4	—	—	19,507	98,917	—	* Capitalized value of Rentcharges.
26,377	5	*—	50,672	10,800	4½	—	—	10,800	61,472	—	* Out of the net receipts, 1,540*l.* were applied in paying back dividends on the preference stock.

No. 1.—Amount of Capital, &c., upon the

Note.—The figures in *italics* show the amounts (included in the figures in Roman type) by

Name of Company.	Authorised Capital.			Paid-up Stock and				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Golden Valley	177,000	159,000	336,000	106,723	Nil	—	—	—
Monmouth Extension (separate undertaking).	189,000	63,000	252,000	—	—	29,800	5	Nil
Gorsedda Junction and Portmadoc	30,000	10,000	40,000	19,995	Nil	—	—	—
Great Eastern	31,968,579	14,901,871	46,870,450	12,572,850	2½	5,444,550	4	4
						650,000	5	5
				—	—	*1,035,236*	*4*	*4*
Leased to or worked by the Great Eastern. Colchester, Stour Valley, Sudbury, and Halstead.	250,000	83,000	333,000	228,675	3 7/20	—	—	—
Leased to or worked by the Great Eastern. Downham and Stoke Ferry	60,000	20,000	80,000	47,249	4	—	—	—
Leased to or worked by the Great Eastern. Ely and Newmarket	100,000	33,333	133,333	100,000	5	—	—	—
Leased to or worked by the Great Eastern. Ely and St. Ives	98,000	32,000	130,000	37,706	4	—	—	—
				60,000	5			
Leased to or worked by the Great Eastern. London and Blackwall	2,487,180	824,000	3,311,180	2,230,865	4½	—	—	—
Leased to or worked by the Great Eastern. Mellis and Eye	15,000	5,000	20,000	15,000	5	—	—	—
Leased to or worked by the Great Eastern. Northern and Eastern	1,179,250	307,800	1,487,050	847,800	5	63,000	5	5
				263,700	6	4,750	6	6
Leased to or worked by the Great Eastern. Ramsey and Somersham Junction	50,000	16,666	66,666	50,000	Nil	—	—	—
Leased to or worked by the Great Eastern. Thetford and Watton	79,000	26,300	105,300	45,000	Nil	—	—	—
Leased to or worked by the Great Eastern. Watton and Swaffham	105,000	35,000	140,000	60,000	Nil	—	—	—
Leased to or worked by the Great Eastern. Wivenhoe and Brightlingsea. *See also* "Tottenham and Hampstead Junction."	40,000	13,000	53,000	24,955	Nil	—	—	—
Great Marlow	18,000	6,000	24,000	8,280	5½	—	—	—
Great Northern	36,671,461	13,678,440	50,349,901	9,363,387	4	—	—	—
				1,159,275	6			
				6,242,254	2½			
				1,159,275	2¼			
				3,121,124	*2¼*	—	—	—
Leased to or worked by the Great Northern. East Lincolnshire	600,000	—*	600,000	600,000	6	—	—	—
Leased to or worked by the Great Northern. Horncastle	48,000	15,620	63,620	48,000	7½	—	—	—
Leased to or worked by the Great Northern. Louth and East Coast	144,000	94,000	238,000	95,975	Nil	—	—	—
Leased to or worked by the Great Northern. Muswell Hill and Palace Railway	70,000	10,000	80,000	70,000	Nil	—	—	—
Leased to or worked by the Great Northern. Nottingham and Grantham Railway and Canal.	1,014,000	265,000	1,279,000	1,014,000	4 1/10	—	—	—
Leased to or worked by the Great Northern. Nottingham Suburban	250,000	83,300	333,300	250,000	3½	—	—	—
Leased to or worked by the Great Northern. Royston and Hitchin	346,667	115,466	462,133	266,675	5 14/15	—	—	—
Leased to or worked by the Great Northern. Stamford and Essendine	140,000	46,000	186,000	75,000	1	—	—	—
				46,500	2			
Leased to or worked by the Great Northern. Sutton and Willoughby	84,000	28,000	112,000	82,582	Nil	—	—	—
Leased to or worked by the Great Northern. Wainfleet and Firsby	18,000	6,000	24,000	18,000	8½	—	—	—
Leased to or worked by the Great Northern. Extension to Skegness. *See also* the "Cheshire Lines Committee."	27,000	9,000	36,000	27,000	8½	—	—	—

31st December 1892.—ENGLAND AND WALES—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

SHARE CAPITAL.				CAPITAL RAISED BY LOANS AND DEBENTURE STOCK.					TOTAL CAPITAL paid up and raised by Loans and Debenture Stock.	SUBSCRIPTIONS TO OTHER COMPANIES.	REMARKS.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
69,000	5	Nil	175,723	—	—	159,000	5	159,000	334,723	—	
—	—	—	29,800	—	—	—	—	—	29,800	—	
2,100	5	Nil	22,095	800 5,800	6 8	—	—	6,600	28,695	—	
1,365,000 9,612,248 2,249,870	2½ 4 4½	2½ 4 4½	31,894,518	82,850 335,700 181,900	3¼ 4 5	13,487,832 7,140 15,426 248,044	4 4¼ 4½ 5	14,358,892	46,253,410	232,830	
632,522	*4*	*4*	*1,667,758*	—	—	*882,639*	*4*	*882,639*	*2,550,397*	—	
30,230	5	5	258,905	—	—	—	—	—	258,905	—	
—	—	—	47,249	19,200 671	3½ 5	—	—	19,871	67,120	—	
—	—	—	100,000	—	—	33,333	3½	33,333	133,333	—	
—	—	—	97,706	5,000 15,000	3¼ 3½	12,000	5	32,000	129,706	—	
250,055	4½	4½	2,480,920	—	—	765,300	4¼	765,300	3,246,220	—	
—	—	—	15,000	—	—	—	—	—	15,000	—	
—	—	—	1,179,250	—	—	—	—	—	1,179,250	—	
—	—	—	50,000	—	—	16,666	4	16,666	66,666	—	
34,000	5	4⅗	79,000	—	—	26,300	4	26,300	105,300	—	
—	—	—	60,000	20,000	4	—	—	20,000	80,000	—	
14,640	6	5	39,595	—	—	10,500	5	10,500	50,095	—	
9,720	5	5½	18,000	—	—	6,000	4	6,000	24,000	—	
3,044,490 12,819,520 575,000	4 4 6	4 4 6	34,363,201	—	—	12,484,250	3	12,484,250	46,847,451	6,435,626*	* Subscriptions to Joint Lines 6,135,626*l.*, and to other Companies 300,000*l.*
471,327 *1,332,505*	*4* *4*	*4* *4*	*4,924,956*	—	—	*3,044,115*	*3*	*3,044,115*	*7,969,071*	—	
—	—	—	600,000	—	—	—	—	—	600,000	—	* Borrowing powers (200,000*l.*) exercised by the Great Northern Railway Company.
—	—	—	48,000	14,000 1,620*	4 4	—	—	15,620	63,620	—	* Capitalized value of Land Rentcharges.
—	—	—	95,975	—	—	43,000 29,071*	4 2	72,071	168,046	—	* Interest (not exceeding 5 per cent. per annum) is payable on this stock out of the revenue of the year.
—	—	—	70,000	—	—	10,000	4	10,000	80,000	—	
—	—	—	1,014,000	—	—	—	—	—	1,014,000	—	
—	—	—	250,000	—	—	—	—	—	250,000	—	
—	—	—	266,675	—	—	—	—	—	266,675	—	
15,000 3,500	4 5	4 5	140,000	—	—	16,000	4	16,000	156,000	—	
—	—	—	82,582	28,000	4½	—	—	28,000	110,582	—	
—	—	—	18,000	6,000	4	—	—	6,000	24,000	—	
—	—	—	27,000	9,000 4,112* 611*	4 4 4½	—	—	13,723	40,723	—	* Capitalized value of Land Rentcharges.

No. 1.—Amount of Capital, &c., upon the

Note.—The figures in *italics* show the amounts (included in the figures in Roman type) by

Name of Company.	Authorised Capital.			Paid-up Stock and				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Great Northern and City	1,500,000	500,000	2,000,000	—	—	—	—	—
Great North of England, Clarence, and Hartlepool Junction.	*Leased to the North-Eastern.*							
Great Western	61,514,106	21,212,165	82,726,271*	22,099,582	5⅞	24,960,848	5	5
				442,735‡	—	*726,094*‡	—	—
Leased to or worked by the Great Western: Abbotsbury	64,000	21,300	85,300	51,440	Nil	—	—	—
Abingdon	20,000	5,000	25,000	15,000	7	—	—	—
Bala and Festiniog	288,000	95,900	383,900	238,000	1⅞	—	—	—
Banbury and Cheltenham Direct	700,000	1,060,000	1,760,000	600,000	Nil	—	—	—
Bridport	127,000	35,600	162,600	64,431	1⅜	—	—	—
Buckfastleigh, Totnes, and South Devon.	86,000	82,000	168,000	65,974	Nil	—	—	—
Cornwall Minerals	1,224,000	519,900	1,743,900	465,394	Nil	—	—	—
				63,266	*Nil*	—	—	—
Corwen and Bala	144,000	40,000	184,000	120,000	3⅛	—	—	—
Devon and Somerset	272,700	1,163,000	1,435,700	259,582	Nil	—	—	—
				—	—	—	—	—
Ely Valley	83,000	27,300	110,300	48,000 35,000*	5½ Nil	—	—	—
Forest of Dean Central	*See* note, page iii.							
Helston	82,000	27,333	109,333	26,000	Nil	—	—	—
Kington and Eardisley	160,000	130,000	290,000	69,230	Nil	—	—	—
Leominster and Kington	122,000	39,660	161,660	59,010 42,000	4 4½	—	—	—
Llangollen and Corwen	110,000	30,000	140,000	90,000	3	—	—	—
Marlborough	51,000	15,000	66,000	30,830	4½	—	—	—
Milford	70,000	23,000	93,000	58,430	1$\frac{17}{40}$	—	—	—
Minehead	60,000	—	60,000	15,000	2$\frac{17}{240}$	—	—	—

31st December 1892.—ENGLAND AND WALES—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

SHARE CAPITAL.				CAPITAL RAISED BY LOANS AND DEBENTURE STOCK.					TOTAL CAPITAL paid up and raised by Loans and Debenture Stock.	SUBSCRIPTIONS TO OTHER COMPANIES.	REMARKS.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
—	–	–	—	—	–	—	–	—	—	—	
11,565,612	5	5	58,626,042	400 1,200 450 300 29,763† 83,287†	3 4 4¼ 4½ 4½ 5	9,820,006 918,966 4,497,867 2,884,045	4 4¼ 4½ 5	18,236,284	76,862,326	798,820	* This does not include some permissive powers, which as yet have not been exercised, in relation to the borrowing powers of other Companies, and to the creation of Capital for the acquisition of, or the subscribing towards, the undertakings of other Companies; nor does it include Capital authorised to be raised jointly with other Companies. † Capitalized value of Rentcharges. ‡ Nominal reduction of Capital.
426,737	*5*	*5*	*742,092*‡	—	–	—	–	—	*742,092*‡	—	
10,000	5	Nil	61,440	21,300	5	—	–	21,300	82,740	—	
450 600	4 5	4 5	16,050	4,600 400	3½ 4	—	–	5,000	21,050	—	
50,000	5	5	288,000	—	–	94,850	4	94,850	382,850	—	
96,095	5	Nil	696,095	9,344*	5	590,656 455,434	4 5	1,055,434	1,751,529	—	* Capitalized value of Land Rentcharges.
23,000 4,000 20,000	4 5 6	4 5 6	111,431	21,600 990*	3½ 5	—	–	22,590	134,021	—	* Capitalized value of Land Rentcharges.
20,000	5	2⅜	85,974	—	–	78,301	4	78,301	164,275	—	
585,000	4	Nil	1,050,394	7,500	5	147,000 314,220 21,900	3¼ 4 5	490,620	1,541,014	—	
80,493	*4*	*Nil*	*143,759*	—	–	*108,120*	–	*108,120*	*251,879*	—	
24,000	4	4	144,000	—	–	38,262	4¼	38,262	182,262	24,000	
12,000	5	Nil	271,582	—	–	433,000 428,957 250,818	3 4 4	1,112,775	1,384,357	—	
—	–	–	—	—	–	*428,957* *82,939*	*4* *4*	*511,896*	*511,896*	—	
—	–	–	83,000	—	–	6,000 15,000	4 4½	21,000	104,000	—	* Amount held by the Great Western Railway Company on which no dividend is paid.
56,000	3½	1 1/320	82,000	—	–	27,333	5	27,333	109,333	—	
64,941	4	Nil	134,171	—	–	129,288	4	129,288	263,459	—	
20,990	4½	4½	122,000	15,100 23,900	3½ 4	—	–	39,000	161,000	—	
20,000	4	4	110,000	—	–	29,820	4¼	29,820	139,820	20,000	
4,800	6	6	35,630	2,100*	5	12,865	3½	14,965	50,595	—	* Capitalized value of Land Rentcharges.
—	–	–	58,430	1,600	4	12,600	4	14,200	72,630	—	
45,000	4½	4½	60,000	—	–	—	–	—	60,000	—	

No. 1.—Amount of Capital, &c., upon the

Note.—The figures in *italics* show the amounts (included in the figures in Roman type) by

Name of Company.	Authorised Capital.			Paid-up Stock and				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
Great Western—*cont.*	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Leased to or worked by the Great Western—*cont.*								
Much Wenlock and Severn Junction	68,000	16,000	84,000	32,650	¼	—	—	—
Nantwich and Market Drayton	120,000	40,000	160,000	120,000	4½	—	—	—
Oldbury	70,000	30,500	100,500	70,000	5	—	—	—
Princetown	60,000	20,000	80,000	59,960	Nil	—	—	—
Ross and Monmouth	160,000	53,000	213,000	80,000	1	—	—	—
Staines and West Drayton	120,000	40,000	160,000	85,000	Nil	—	—	—
Teign Valley	132,740	78,300	211,040	15,510	Nil	—	—	—
Tiverton and North Devon	65,000	21,166	86,166	64,640	Nil	—	—	—
Vale of Llangollen	86,000	23,000	109,000	44,700	6½	—	—	—
Wenlock	125,000	41,500	166,500	60,000 40,000*	3½ —	—	—	—
West Cornwall Railway—"Great Western" Railway Company in respect of the.	945,493	—	945,493	—	—	809,493 85,800	4½ 5	4½ 5
West Somerset	154,000	43,330	197,330	67,796	2¾	—	—	—
Wye Valley *See also* "Birkenhead," "Halesowen," "Hammersmith and City," "Ludlow and Clee Hill," "Shrewsbury and Hereford," "Tenbury," "Victoria Station and Pimlico," "West London," and "Weymouth and Portland."	*See* note, page iii.							
Guiseley, Yeadon, and Headingley	40,000	13,330	53,330	14,588	Nil	—	—	—
Leeds and Yeadon	150,000	50,000	200,000	—	—	—	—	—
Gwendraeth Valleys	170,000	56,000	226,000	100,000	Nil	—	—	—
Halesowen	186,000	62,000	248,000	120,000	Nil	—	—	—
Halifax and Ovenden	The line is the joint property of the "Great Northern" and "Lancashire and Yorkshire"							
Halifax High Level	291,500	97,166	388,666	241,500	3	—	—	—
Hammersmith and City Great Western and Metropolitan Railway Companies jointly in respect of the.	340,000	33,000	373,000	—	—	154,000 180,000	5 5½	5 5½
Harborne	*Worked by the London and North-Western.*							

31st December 1892.—ENGLAND AND WALES—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

Share Capital.			Total Paid-up Stock and Share Capital.	Capital raised by Loans and Debenture Stock.				Total raised by Loans and Debenture Stock.	Total Capital paid up and raised by Loans and Debenture Stock.	Subscriptions to other Companies.	Remarks.
Preferential.				Loans.		Debenture Stock.					
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
20,000 15,000	4½ 5	4½ 5	67,650	11,000	4½	—	–	11,000	78,650	20,000	
—	–	–	120,000	8,200 16,620	3½ 4	—	–	24,820	144,820	—	
—	–	–	70,000	—	–	30,500	4	30,500	100,500	—	
—	–	–	59,960	19,900 100*	4½ 5	—	–	20,000	79,960	—	* Capitalized value of Land Rentcharges.
80,000	6	6	160,000	47,300 5,434*	3½ 5	—	–	52,734	212,734	—	* Capitalized value of Rentcharges.
35,000	4	Nil	120,000	—	–	40,000	4½	40,000	160,000	—	
72,000	5	Nil	87,510	—	–	64,250	4	64,250	151,760	—	
—	–	–	64,640	21,166	3½	—	–	21,166	85,806	—	
12,000 26,500	4 5	4 5	83,200	—	–	22,447	4¼	22,447	105,647	12,000	
25,000	5	5	125,000	8,900 6,471†	4 5	26,100	3½	41,471	166,471	—	* Amount subscribed by the "Great Western" and "Much Wenlock and Severn Junction" Companies in equal proportions, for the construction of the Coalbrookdale Extension Branch. The "Great Western" pay the "Much Wenlock and Severn Junction" Company a fixed sum in lieu of dividend on the moiety subscribed by it, and retain the balance of the profits of the working of the extension in lieu of dividend on their moiety. † Capitalized value of Land Rentcharges.
—	–	–	895,293	—	–	—	–	—	895,293	—	
75,063	4	4	142,859	—	–	40,000	4	40,000	182,859	—	
—	–	–	14,588	8,330	3½	—	–	8,330	22,918	—	
—	–	–	—	—	–	—	–	—	—	—	
—	–	–	100,000	33,300	5	—	–	33,300	133,300	—	
66,000	5	Nil	186,000	—	–	62,000	5	62,000	248,000	—	The line is worked by the "Great Western" and "Midland" Companies. The traffic receipts and working expenses, &c. are included in the Returns of those Companies.
Railway Companies; the Capital is included in the Returns of those Companies.											
28,500	3¼	3¼	270,000	53,330	3¼	—	–	53,330	323,330	—	The railway is worked by the "Great Northern" and "Lancashire and Yorkshire" Railway Companies jointly.
—	–	–	334,000	—	–	—	–	—	334,000	—	

No. 1.—AMOUNT of CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL.			PAID-UP STOCK AND				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Harrow and Stanmore	*Worked by the London and North-Western.*							
Hayling Railways	*Leased to the London, Brighton, and South Coast.*							
Helston	*Worked by the Great Western.*							
Horncastle	*Worked by the Great Northern.*							
Hounslow and Metropolitan	*Worked by the Metropolitan District.*							
Hull and North-Western Junction	540,000	180,000	720,000	—	—	—	—	—
Hull, Barnsley, and West Riding Junction Railway and Dock.	4,500,000	4,118,947	8,618,947	3,285,009	Nil	—	—	—
Isle of Wight	402,312	190,855	593,167	154,000*	4	—	—	—
				154,000†	3½			
				154,000	3½	—	—	—
Brading Harbour Improvement and Railway.	40,000	13,300	53,300	40,000	Nil	—	—	—
Isle of Wight Central	282,000	297,000	579,000	80,460	Nil	—	—	—
Freshwater, Yarmouth, and Newport	178,000	79,300	257,300	92,081	Nil	—	—	—
Kettering, Thrapstone, and Huntingdon	*Worked by the Midland.*							
King's Lynn Docks and Railway	415,250	150,000	565,250	60,108	Nil	—	—	—
				82,281	Nil			
				—	—	—	—	—
Kington and Eardisley	*Worked by the Great Western.*							
Lambourn Valley	130,000	43,000	173,000	49,762	Nil	—	—	—
Lancashire and Yorkshire	37,615,546	13,565,483	51,181,029	16,740,995	3⅝	2,595,989	4	4
				—	—	*634,151*	*4*	*4*
Lancashire, Derbyshire, and East Coast	6,000,000	1,999,966	7,999,966	274,220	Nil	—	—	—
Latimer Road and Acton	180,000	60,000	240,000	52,793	Nil	—	—	—
Lee-on-the-Solent	30,000	10,000	40,000	552	Nil	—	—	—
Leominster and Kington	*Worked by the Great Western.*							
Liskeard and Caradon	211,625	75,300	286,925	23,625	Nil	—	—	—
Liskeard and Looe Union Railway and Canal.	26,000	14,000	40,000	25,300	Nil	—	—	—
Liskeard and Looe Union Railway and Canal	*Worked by the Liskeard and Caradon.*							
Liverpool Overhead Railway	570,000	190,000	760,000	375,000	Nil	—	—	—
Liverpool, St. Helens, and South Lancashire	550,000	183,000	733,000	71,106	Nil	100,000	3½	Nil
Liverpool, Southport, and Preston Junction	*Worked by the West Lancashire.*							
Llanelly and Mynydd Mawr	60,000	45,000	105,000	59,616	Nil	—	—	—

31st December 1892.—ENGLAND AND WALES—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

SHARE CAPITAL.				CAPITAL RAISED BY LOANS AND DEBENTURE STOCK.					TOTAL CAPITAL paid up and raised by Loans and Debenture Stock.	SUBSCRIPTIONS TO OTHER COMPANIES.	REMARKS.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
—	–	–	—	—	–	—	–	—	—	—	
—	–	–	3,285,009	40,000*	5	3,548,266	3	3,588,266	6,873,275	—	* Capitalized value of Land Rentcharges.
84,012	4	4	392,012	6,056‡	5	185,000	4	191,056	583,068	—	* Preferred Stock. † Deferred Stock.
16,802	*4*	*4*	*170,802*	—	–	*37,000*	*4*	*37,000*	*207,802*	—	‡ Capitalized value of Land Rentcharges.
—	–	–	40,000	13,300	5	—	–	13,300	53,300	—	
193,055	5	Nil	273,515	7,964*	5	102,000 125,000 70,000	3½ 4 4½	304,964	578,479	—	* Capitalized value of Rentcharges.
42,000	5	Nil	134,081	3,730	5	47,300	5	51,030	185,111	—	
14,250 135,000 20,000	4 4 5	4 4 3	311,639	4,200 54,600 24,460 5,060	4 4¼ 4½ 5	—	–	88,320	399,959	—	
4,750 *30,000* *15,000*	*4* *4* *4*	*4* *4* *4*	*49,750*	—	–	—	–	—	*49,750*	—	
—	–	–	49,762	—	–	—	–	—	49,762	—	
450,000 1,500,000 14,003,187 100,000 288,375	3½ 3½ 4 4½* 6*	3½ 3½ 4 4½ 6	35,678,546	294,635 76,795 27,450 438	3 3¼ 3½ 4	50,000 50,000 11,967,200	1½ 3½ 4	12,466,518	48,145,064	—	* Minimum rate.
1,466,437	*4*	*4*	*2,100,588*	—	–	—	–	—	*2,100,588*	—	
—	–	–	274,220	—	–	—	–	—	274,220	—	
—	–	–	52,793	—	–	—	–	—	52,793	—	
—	–	–	552	—	–	—	–	—	552	—	
7,200	5	Nil	30,825	2,000 10,500 1,500	4 4½ 5	—	–	14,000	44,825	—	
—	–	–	25,300	6,150 6,600 300	4 4½ 5	—	–	13,050	38,350	650	
—	–	–	375,000	125,000	4	—	–	125,000	500,000	—	Line in course of construction.
19,700	4	Nil	190,806	—	–	—	–	—	190,806	—	
—	–	–	59,616	—	–	44,072	5	44,072	103,688	—	

No. 1.—AMOUNT of CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL. By Shares and Stock.	By Loans and Debenture Stock.	Total.	PAID-UP STOCK AND Ordinary. Amount.	Ordinary. Rate of Dividend paid.	Guaranteed. Amount.	Guaranteed. Guaranteed Rate of Dividend.	Guaranteed. Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Llangollen and Corwen	*Leased to the Great Western.*							
London and Blackwall	*Leased to the Great Eastern.*							
London and Greenwich	*Leased to the South-Eastern.*							
London and North-Western	81,123,233	30,333,587	111,456,820	39,482,450	6½	15,100,406	4	4
				1,929,839	*6½*	*3,324,286*	*4*	*4*
Leased to or worked by the London and North-Western. Charnwood Forest	159,000	53,000	212,000	159,000	Nil	—	—	—
Harborne	100,000	83,000	183,000	55,990	Nil	—	—	—
Harrow and Stanmore	36,000	12,000	48,000	36,000	Nil	—	—	—
Mold and Denbigh Junction	325,000	247,000	572,000	73,000 76,000* 76,000†	Nil Nil Nil	—	—	—
Shropshire Union Railways and Canal *See also* "Birkenhead," "Ludlow and Clee Hill," "Manchester, South Junction, and Altrincham," "North and South-Western Junction," "Oldham, Ashton-under-Lyne, and Guide Bridge Junction," "Shrewsbury and Hereford," "Tenbury," and "West London."	429,849	—	429,849	429,849	3¼	—	—	—
London and South-Western	25,760,462	10,510,491	36,270,953	10,823,805 849,700 849,700	6 4 2	797,980	4	4
				849,700	*2*	*145,632*	*4*	*4*
Leased to or worked by the London and South-Western. North Cornwall	660,000	220,000	880,000	150,000	1⅝	—	—	—
Plymouth, Devonport, and South-Western Junction.	855,000	284,000	1,139,000	341,650	1⅝	—	—	—
Salisbury Railway and Market House.	17,000	4,600	21,600	13,400	5	—	—	—
Sidmouth	66,000	22,000	88,000	58,536	1⅓*	—	—	—
Stonehouse Pool Improvement and Railway.	50,000	16,600	66,600	50,000	Nil	—	—	—
See also "West London Extension" and "Weymouth and Portland."								
London, Brighton, and South Coast	18,967,600	6,284,692	25,252,292	2,543,035 2,478,470* 2,478,470† 433,128	6½ 6 7 4	1,955,860	5	5
				—	—	*116,765*	*5*	*5*

31st December 1892.—ENGLAND AND WALES—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

SHARE CAPITAL.				CAPITAL RAISED BY LOANS AND DEBENTURE STOCK.					TOTAL CAPITAL paid up and raised by Loans and Debenture Stock.	SUBSCRIPTIONS TO OTHER COMPANIES.	REMARKS.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
23,080,620	4	4	77,663,476	157,798*	5	27,803,283	4	27,961,081	105,624,557	4,955,986†	* Capitalized value of Rentcharges. † Including 1,710,261*l.* converted debentures of other Companies.
4,119,124	*4*	*4*	*9,373,249*	—	–	—	–	—	*9,373,249*	—	
—	–	–	159,000	—	–	46,000	5	46,000	205,000	—	In the Return of the Company it is stated that irregularities in the issue of debentures of this Company were discovered, and that these irregularities were the subject of litigation in the Chancery Division of the High Court of Justice. By an order of Mr. Justice Kay, a special referee was appointed to make inquiries into the over-issue and report to the Court, and this report shows that Stock to the amount of 117,902*l.* 10*s.* has been issued, but that 46,000*l.* only has been legally issued, the balance being *ultra vires.* The books of the Company show that the full issue of 53,000*l.* has been made.
—	–	–	55,990	17,262* 22,652*	4½ 5	14,586 5,880	5 5	60,380	116,370	—	* Capitalized value of Land Rentcharges.
—	–	–	36,000	12,000	4½	—	–	12,000	48,000	—	
100,000	5	Nil	325,000	12,215‡	5	40,000 137,000 70,000	5 5 5	259,215	584,215	—	* Preferred Stock. † Deferred Stock. ‡ Capitalized value of Land Rentcharges.
—	–	–	429,849	—	–	—	–	—	429,849	—	
1,323,872 10,944,825	3½ 4	3½ 4	25,589,882	700 147,810 2,000 19,225*	3½ 4 4½ 4	2,966,281 6,703,947	3 4	9,839,963	35,429,845	432,054	* Capitalized value of Land Rentcharges.
950,942	*4*	*4*	*1,946,274*	—	–	*187,347* *160,989*	*3* *4*	*348,336*	*2,294,610*	—	
—	–	–	150,000	—	–	50,000	4	50,000	200,000	—	
300,000	4½	4½	641,650	—	–	220,000	4	220,000	861,650	—	
1,000	6	6	14,400	3,600	4	—	–	3,600	18,000	—	
—	–	–	58,536	—	–	22,000	5	22,000	80,536	—	* The rate of dividend was incorrectly returned for 1891. It should have been 1⅜ instead of 1½ as stated.
—	–	–	50,000	16,600	5	—	–	16,600	66,600	—	
8,363,275‡	5	5	18,252,238	—	–	1,306,239 4,576,722	4 4½	5,882,961	24,135,199	—	* Preferred Stock. † Deferred Stock. ‡ The consolidation of the Preference Stocks of the Company resulted in a reduction of capital. The preferential capital shown is the reduced amount on which dividend is now paid.
348,590‖	–	–	*201,825*‖	—	–	—	–	—	*201,825*‖	—	‖ Nominal reduction of capital.

No. 1.—Amount of Capital, &c., upon the

Note.—The figures in *italics* show the amounts (included in the figures in Roman type) by

Name of Company.	Authorised Capital.			Paid-up Stock and				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
London, Brighton, and South Coast—*cont.*								
Leased to or worked by the London, Brighton, and South Coast. — Brighton and Dyke	72,000	34,000	106,000	22,030 *24,940 †17,925	Nil Nil Nil	—	—	—
Hayling Railways	66,000	21,900	87,900	44,234	Nil	—	—	—
See also "Victoria Station and Pimlico" and "West London Extension."								
London, Chatham, and Dover	19,115,217	8,348,286	27,463,503	11,259,282	Nil	128,907	4½	4½
Leased to or worked by the London, Chatham, and Dover. — Mid-Kent (Bromley to St. Mary Cray).	70,000	23,000	93,000	61,550	4	—	—	—
Shortlands and Nunhead	320,000	102,310	422,310	220,000 32,080	3½ Nil	—	—	—
See also "Victoria Station and Pimlico."								
Londonderry (Seaham to Sunderland)	*Private property.*							
London, Tilbury, and Southend	2,342,450	795,000	3,137,450	1,338,350	3⅞	—	—	—
				—	—	—	—	—
Longton, Adderley Green, and Bucknall	*Worked by the North Staffordshire.*							
Lostwithiel and Fowey	Amalgamated with the Cornwall Minerals Railway Company under Act 55 & 56 Vict. c. 182.							
Louth and East Coast	*Leased to the Great Northern.*							
Ludlow and Clee Hill	30,000	12,000	42,000	30,000	Nil	—	—	—
Lydd	*Worked by the South-Eastern.*							
Lynton	*See* note, page iii.							
Macclesfield Committee	Line owned by the "Manchester, Sheffield, and Lincolnshire" and "North Staffordshire"							
Maenclochog	*Private property.*							
Manchester and Milford	570,300	199,389	769,689	323,050	Nil	—	—	—
Manchester, Sheffield, and Lincolnshire	25,633,489	9,758,494	35,391,983	1,135,933 2,178,310* 2,178,310†	1⅝ 3½ Nil	448,980 1,797,428 1,066,083 1,118,300 872,000	4 4¼ 4½ 5 6	4 4¼ 4½ 5 6
				—	—	*296,408* *31,083* *50,794*	*4¼* *4½* *5*	*4¼* *4½* *5*
Wigan Junction — *See also* the "Cheshire Lines Committee," "Macclesfield Committee," "Manchester, South Junction, and Altrincham," "Oldham, Ashton-under-Lyne, and Guide Bridge Junction," and "Sheffield and Midland Committee."	650,000	150,000	800,000	209,560	Nil	—	—	—
Manchester Ship Canal and Railway	8,000,000	5,477,420	13,477,420	3,989,677	Nil	—	—	—
Manchester, South Junction, and Altrincham	—	216,666	216,666	—	—	—	—	—

31st December 1892.—ENGLAND AND WALES—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

SHARE CAPITAL.				CAPITAL RAISED BY LOANS AND DEBENTURE STOCK.					TOTAL CAPITAL paid up and raised by Loans and Debenture Stock.	SUBSCRIPTIONS TO OTHER COMPANIES.	REMARKS.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
—	–	–	64,895	—	–	24,000 450	4 5	24,450	89,345	—	* Preferred shares. † Deferred shares.
16,000	5	5	60,234	—	–	21,900	4½	21,900	82,134	—	
6,686,184 869,532	4½ 4½	3½ Nil	18,943,905	389,866 6,800	3½ 3¾	1,221,352 6,489,268	4 4½	8,107,286	27,051,191	166,638	
—	–	–	61,550	8,000 15,000	3½ 4½	—	–	23,000	84,550	—	
—	–	–	252,080	92,350	3½	—	–	92,350	344,430	—	
400,000 304,100 164,100	4 4 4	4 4 4	2,206,550	—	–	715,000	4	715,000	2,921,550	74,480	
450	*4*	*4*	*450*	—	–	*15,000*	*4*	*15,000*	*15,450*	—	
—	–	–	30,000	10,000 2,000*	5 4½	—	–	12,000	42,000	—	The line is leased to the "London and North-Western" and "Great Western" Companies. * Capitalized value of Land Rentcharges.
Railway Companies; the Capital is included in the Returns of those Companies.											
190,200	5	Nil	513,250	500 163,240 38,582*	4½ 5 5	—	–	202,322	715,572	—	* Capitalized value of Land Rentcharges.
366,698 4,577,953 6,968,000	3¼ 4 5	3¼ 4 5	22,707,995	44,450	4	79,577 8,042,392 300,000	4 4½ 5	8,466,419	31,174,414	7,145,349	* Preferred Ordinary Stock † Deferred Ordinary Stock.
100,000	*4*	*4*	*478,285*	—	–	—	–	—	*478,285*	—	
200,000 25,000	3¼ 5	Nil 5	434,560	141,720	4	—	–	141,720	576,280	—	
3,999,575	5	Nil	7,989,252	1,783,920 3,000,000	4 4½	—	–	4,783,920	12,773,172	—	
—	–	–	—	—	–	216,666	4	216,666	216,666	—	

No. 1.—AMOUNT of CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL.			PAID-UP STOCK AND				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Marlborough	*Worked by the Great Western.*							
Maryport and Carlisle	777,800	110,900	888,700	775,800	5¾	2,000	4*	5¾
Mawddwy	21,000	7,000	28,000	21,000	Nil	—	—	—
Mellis and Eye	*Worked by the Great Eastern.*							
Merrybent and Darlington	—	—	—	—	—	—	—	—
Mersey	3,510,000	1,469,600	4,979,600	1,084,553	Nil	—	—	—
Methley Railway Joint Committee	The Line is the joint property of the "Great Northern," "Lancashire and Yorkshire," and							
Metropolitan: Railway Capital	9,741,943	3,616,492	13,358,435	5,281,830	3¼	100,000*	3	1½
				—	—	350,000§	4	—
Surplus Lands Capital ‖	2,640,915	—	2,640,915	2,640,915	2½	—	—	—
				2,640,915	2½	—	—	—
See also "Hammersmith and City."								
Metropolitan District	5,479,444	2,441,000	7,920,444	2,250,000	Nil	244,444	4½	4½
						1,213,800	4	4
						36,200*	4	—
Richmond Extension	350,000	—	350,000	—	—	350,000	4	4
Ealing Extension	250,000	—	250,000	—	—	250,000	4½	4½
Fulham Extension	300,000	—	300,000	—	—	300,000	4½	4½
Worked by the Metropolitan District. } Hounslow and Metropolitan	270,000	90,000	360,000	210,000	Nil	—	—	—
Metropolitan and Metropolitan District, City Lines and Extensions.	Lines owned by the "Metropolitan" and "Metropolitan District" Railway Companies; the							
Metropolitan Outer Circle	1,200,000	400,000	1,600,000	—	—	—	—	—
Mid-Kent (Bromley to St. Mary Cray)	*Leased to the London, Chatham, and Dover.*							
Midland	71,116,837	29,276,422	100,393,259	33,122,549	6	5,994,577	4	4
						3,899,121	4	4
						150,000	6	6
				170,207†	—	*10,235*†	—	—
						1,231,683	4	4
Leased to or worked by the Midland. } Barnoldswick	40,000	13,300	53,300	27,695	2½	—	—	—
Leased to or worked by the Midland. } Kettering, Thrapstone, and Huntingdon.	442,500	75,600	518,100	100,000	Nil	342,500	4	4
				100,000	*Nil*	*112,500*	4	4
See also the "Cheshire Lines Committee," "North and South-Western Junction," and "Tottenham and Hampstead Junction."								

31st December 1892.—ENGLAND AND WALES—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

Share Capital.				Capital raised by Loans and Debenture Stock.					Total Capital paid up and raised by Loans and Debenture Stock.	Subscriptions to other Companies.	Remarks.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
—	–	–	777,800	1,200†	5	107,695	4	108,895	886,695	—	* Minimum rate. † Capitalized value of Land Rentcharges.
—	–	–	21,000	4,550	5	—	–	4,550	25,550	—	
—	–	–	—	—	—	—	–	—	—	—	
460,892	5	Nil	1,545,445	—	–	681,650 355,714	4½ 5	1,037,364	2,582,809	—	
"North-Eastern" Railway Companies; the Capital is included in the Returns of those Companies.											
3,160,113	4	4	8,541,943	50,000† 37,420‡	4 5	555,680 2,293,311 52,745 358,263	3½ 4 4½ 4½	3,347,419	11,889,362	40,000	* This stock was issued subject to the following conditions, viz., that the dividend for the year ended 30th June 1892 be at the rate of 1 per cent.; for the following 12 months at the rate of 2 per cent., and for each succeeding 12 months at the rate of 3 per cent.
—	–	–	350,000§	—	–	—	–	—	350,000§	—	† Terminable Debenture Stock, repayable June 18th, 1933.
—	–	–	2,640,915	—	–	—	–	—	2,640,915	—	‡ Capitalized value of Land Rentcharges.
442,043	*4*	*4*	*3,082,958*	—	–	—	–	—	*3,082,958*	—	§ Guaranteed 4 per cent. stock issued for the purposes of the Aylesbury Extension. Dividend accrues from 1st January 1893.
											‖ Under the provisions of the Metropolitan Railway Acts, 1885 and 1887, the surplus lands property of the Company was separated from the railway capital.
1,500,000	5	3	5,244,444	113,750†	3½	727,200 1,211,625	4 6	2,052,575	7,297,019	—	* This amount is in the hands of the Company. † Of this amount 25,000*l.* was raised under Act of 1883 to pay off arrears of passenger duty. The sum is to be redeemed in 20 years from the date of the passing of the Act.
—	–	–	350,000	—	–	—	–	—	350,000	—	Constituted a separate capital and undertaking under Act of 1875, and secured a dividend at the rate of 4 per cent. per annum by the "Midland" Railway Company under the Metropolitan District Railway Act of 1878.
—	–	–	250,000	—	–	—	–	—	250,000	—	Constituted a separate capital and undertaking under Act of 1877.
—	–	–	300,000	—	–	—	–	—	300,000	—	Constituted a separate capital and undertaking under Act of 1878.
53,000	5	Nil	263,000	70,000	4½	—	–	70,000	333,000	—	
Capital is included in the Returns of those Companies.											
—	–	–	—	—	–	—	–	—	—	—	
25,766,421	4	4	68,932,668	150 31,312 108,295	2½ 3 3½	27,452,334	3	27,592,091	96,524,759	9,681,247*	* Consisting of 8,811,458*l.* subscribed to lines the joint property of the "Midland" and other Companies, and 869,789*l.* to other Companies.
3,033,355	*4*	*4*	*4,084,626*	—	–	*5,988,658*	*3*	*5,988,658*	*10,073,284*	—	† Nominal reduction of capital.
—	–	–	27,695	4,228 1,400	3½ 4	—	–	5,628	33,323	—	
—	–	–	442,500	—	–	75,600	4½	75,600	518,100	—	
—	–	–	*212,500*	—	–	—	–	—	*212,500*	—	

No. 1.—Amount of Capital, &c., upon the

Note.—The figures in *italics* show the amounts (included in the figures in Roman type) by

Name of Company.	Authorised Capital.			Paid-up Stock and				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Midland and North-Eastern Committee (Swinton to Knottingley.)	The Line is the joint property of the "Midland" and "North-Eastern" Railway Companies;							
Midland and South-Western Junction	743,518	683,368	1,426,886	294,162	Nil	—	—	—
Mid Wales	*Worked by the Cambrian.*							
Milford	*Worked by the Great Western.*							
Milford Haven Dock and Railway	140,000	46,000	186,000	74,230	Nil	—	—	—
Minehead	*Worked by the Great Western.*							
Mold and Denbigh Junction	*Worked by the London and North-Western.*							
Much Wenlock and Severn Junction	*Worked by the Great Western.*							
Mumbles Railway and Pier	81,000	27,000	108,000	21,600	Nil	—	—	—
Muswell Hill and Palace Railway	*Worked by the Great Northern.*							
Nantwich and Market Drayton	*Worked by the Great Western.*							
Neath and Brecon	684,790	678,112	1,362,902	256,230	Nil	—	—	—
				—	—	—	—	—
Newent	Amalgamated with the Great Western under Act 55 & 56 Vict. c. 233.							
Newport, Godshill, and St. Lawrence	102,000	34,000	136,000	15,100	Nil	—	—	—
Northampton and Banbury Junction	915,000	300,000	1,215,000	109,960	Nil	—	—	—
North and South Western Junction	105,000	33,600	138,600	*128,600	7	—	—	—
North Cornwall	*Worked by the London and South-Western.*							
North-Eastern	47,962,585	15,802,346	63,764,931	25,224,414	4⅞	5,775,179	4	4
						155,000	4½	4½
						483,540	5	5
						1,356,630	6	6
				399,200	4⅞	—	—	—
Leased to or worked by the North-Eastern. Great North of England, Clarence, and Hartlepool Junction	74,900	—*	74,900	41,875	3	16,918	4½	4½
Leased to or worked by the North-Eastern. Scarborough and Whitby	400,000	133,333	533,333	33,791	Nil	—	—	—
Leased to or worked by the North-Eastern. Scarborough, Bridlington, and West Riding Junction.	250,000	83,333	333,333	242,232	1	—	—	—
Northern and Eastern	*Leased to the Great Eastern.*							
North London *See also* "North and South Western Junction."	3,225,000	1,070,766	4,295,766	2,020,400	7½	—	—	—
North Metropolitan Railway and Canal	6,201,800	2,230,600	8,432,400	1,275,000*	2¾	—	—	—
North Pembrokeshire and Fishguard	212,000	54,000	266,000	10,106	Nil	—	—	—
North Staffordshire	6,551,000	2,175,833	8,726,833	3,200,000	4½	1,170,000	5	5
				80,140	4½	—	—	—
Longton, Adderley Green, and Bucknall *See also* "Macclesfield Committee."	50,000	16,000	66,000	46,037	Nil	—	—	—

31st December 1892.—ENGLAND AND WALES—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

Share Capital.				Capital raised by Loans and Debenture Stock.					Total Capital paid up and raised by Loans and Debenture Stock.	Subscriptions to other Companies.	Remarks.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
the Capital is included in the Returns of those Companies.											
337,464	5	Nil	631,626	—	–	157,588 503,180	4 5	660,768	1,292,394	—	
—	–	–	74,230	—	–	45,481	5	45,481	119,711	—	
—	–	–	21,600	—	–	—	–	—	21,600	—	
400,402	4	Nil	656,632	—	–	651,224*	4	651,224	1,307,856	—	*Of the Debenture Stock existing on 31st December 1891, 535,055*l.* was, in 1892, converted into Preference Stock of less amount. † Nominal reduction of capital.
257,453†	–	–	*257,453*†	—	–	*73,758*†	–	*73,758*†	*331,211*†	—	
—	–	–	15,100	—	–	—	–	—	15,100	—	
145,000 74,770	5 5	Nil Nil	329,730	4,070*	5	115,930 170,058	5 5	290,058	619,788	—	*Capitalized value of Rent-charges.
—	–	–	128,600	—	–	—	–	—	128,600	—	* Under the Companies Clauses Consolidation Act, 1845, the Company created share capital in lieu of loan capital. The line is leased to the "London and North-Western," "Midland," and "North London" Companies.
12,186,090 535,000	4 5½	4 5½	45,715,853	4,000 36,310	3½ 4	13,256,365 1,138,119	4 4½	14,434,794	60,150,647	228,450	
—	–	–	*399,200*	—	–	—	–	—	*399,200*	—	
13,725	5	5	72,518	—	–	—	–	—	72,518	—	* Borrowing powers exercised by the "North-Eastern" Railway Company.
53,718 144,946 160,000	3 5 5	Nil Nil Nil	392,455	—	–	133,333	5	133,333	525,788	—	
—	–	–	242,232	—	–	72,000	4½	72,000	314,232	—	
250,000 700,000	4½ –*	4½ 5	2,970,400	—	–	6,500 964,366	4 4½	970,866	3,941,266	—	* Minimum rate, 4½; maximum, 5.
—	–	–	1,275,000*	—	–	193,052* 200,000*	4 4¼	393,052*	1,668,052*	—	* Capital raised for the purpose of the canal only; none has yet been raised for the railway. The ordinary stock is entitled to accumulative dividends at the rate of 4 per cent. per annum.
—	–	–	10,106	—	–	—	–	—	10,106	—	
739,901 971,000	4½ 5	4½ 5	6,080,901	—	–	1,912,341 24,560	4¼ 4½	1,936,901	8,017,802	219,029	
—	–	–	*30,140*	—	–	—	–	—	*30,140*	—	
—	–	–	46,037	1,000 15,000	5½ 6	—	–	16,000	62,037	—	

No. 1.—AMOUNT of CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL.			PAID-UP STOCK AND				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
North Sunderland	21,000	7,000	28,000	—	—	—	—	—
North Wales (narrow gauge)	106,000	54,000	160,000	65,975	Nil	—	—	—
				—	—	—	—	—
Extensions	28,000	9,300	37,300	—	—	—	—	—
North-West Central	2,000,000	666,664	2,666,664	—	—	—	—	—
Nottingham and Grantham Railway and Canal	*Leased to the Great Northern.*							
Nottingham Suburban	*Worked by the Great Northern.*							
Oldbury	*Worked by the Great Western.*							
Oldham, Ashton-under-Lyne, and Guide Bridge Junction.	340,000	—*	340,000	276,300	Nil	40,000	4¾	4¾
Oxford and Aylesbury Tramroad	85,000	21,250	106,250	—	—	—	—	—
Painswick	33,000	11,000	44,000	—	—	—	—	—
Pembroke and Tenby	421,000	137,200	558,200	79,876	Nil	—	—	—
Penarth Extension	*Leased to the Taff Vale.*							
Penarth Harbour, Dock, and Railway	*Leased to the Taff Vale.*							
Plymouth and Dartmoor	411,000	125,300	536,300	35,000	Nil	—	—	—
Plymouth, Devonport, and South-Western Junction.	*Worked by the London and South-Western.*							
Pontypridd, Caerphilly, and Newport	290,000	80,000	370,000	115,000	Nil	—	—	—
Portmadoc, Croesor, and Beddgelert	48,000	15,980	63,980	20,000	Nil	—	—	—
Princetown	*Worked by the Great Western.*							
Ramsey and Somersham Junction	*Worked by the Great Eastern.*							
Ravenglass and Eskdale	36,000	12,000	48,000	24,000	Nil	—	—	—
Redruth and Chasewater	49,500	9,000	58,500	49,500	Nil	—	—	—
Regent's Canal, City, and Docks	Under Act 55 & 56 Vict. c. 188 the name of the Company was changed to North							
Rhondda and Swansea Bay	846,000	282,000	1,128,000	365,532	½	—	—	—
Rhymney	1,876,478	538,300	2,414,778	482,998	8½	—	—	—
				23,792	8½			
				23,793	8½*			
				23,792	7†			
				9,624‡	Nil			
				10,398	8½	—	—	—
Ross and Ledbury	Amalgamated with the Great Western under Act 55 & 56 Vict. c. 233.							
Ross and Monmouth	*Worked by the Great Western.*							
Rotherham, Blyth, and Sutton	Name changed to Sutton, Rotherham, and Barnsley under Act 55 & 56 Vict. c. 181.							

31st December 1892.—ENGLAND AND WALES—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

SHARE CAPITAL.				CAPITAL RAISED BY LOANS AND DEBENTURE STOCK.					TOTAL CAPITAL paid up and raised by Loans and Debenture Stock.	SUBSCRIPTIONS TO OTHER COMPANIES.	REMARKS.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
—	–	–	—	—	–	—	–	—	—	—	
17,390	6	Nil	83,365	—	–	37,807 3,563	4 5	41,370	124,735	—	
—	–	–	—	—	–	*4,600*	*4*	*4,600*	*4,600*	—	
—	–	–	—	—	–	—	–	—	—	—	
—	–	–	—	—	–	—	–	—	—	—	
—	–	–	316,300	—	–	46,600	4	46,600	362,900	—	* The line is vested jointly in the "London and North-Western" and "Manchester, Sheffield, and Lincolnshire" Railway Companies, and the ordinary capital is subscribed by them. The borrowing powers have been transferred to and are exercised by the Companies jointly.
—	–	–	—	—	–	—	–	—	—	—	
—	–	–	—	—	–	—	–	—	—	—	
242,320	5	3½	322,196	8,527*	5	3,000 61,790 28,350 19,900	3¼ 4 4½ 5	121,567	443,763	—	* Capitalized value of Land Rentcharges.
75,000 25,000 26,010	5 5 5	⅜ ⅜ Nil	161,010	2,894 6,400 2,000	4 4½ 5	—	–	11,294	172,304	—	
74,500 35,000	5 5	Nil Nil	224,500	70,500	5	—	–	70,500	295,000	—	
—	–	–	20,000	330 8,000	5 5½	—	–	8,330	28,330	—	
—	–	–	24,000	—	–	2,600 5,400	6 8	8,000	32,000	—	
—	–	–	49,500	7,500	5	—	–	7,500	57,000	—	
Metropolitan Railway and Canal, which *see*.											
108,173	5	5	473,705	25,000*	5	125,000	4	150,000	623,705	—	* Capitalized value of Rentcharges.
979,740 5,340§	4 6	4 8½	1,549,079	—	–	357,270	4	357,270	1,906,349	—	* Interest paid at the rate of 8½ per cent. per annum for 10 months. † Interest paid at the rate of 7 per cent. per annum for 4 months. ‡ Amount of calls paid in advance, on which no dividend is paid. § This stock participates with the ordinary stock in any dividend above 6 per cent.
249,080	*4*	*4*	*259,478*	—	–	—	–	—	*259,478*	—	

No. 1.—Amount of Capital, &c., upon the

Note.—The figures in *italics* show the amounts (included in the figures in Roman type) by

Name of Company.	Authorised Capital.			Paid-up Stock and				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Rowrah and Kelton Fell Mineral	39,000	13,000	52,000	36,230	1½	—	—	—
Royston and Hitchin	*Leased to the Great Northern.*							
St. Austell and Pentewan Railway, Harbour, and Dock.	*Private property.*							
Salisbury Railway and Market House	*Worked by the London and South-Western.*							
Saundersfoot Railway and Harbour	*Private property.*							
Scarborough and Whitby	*Worked by the North-Eastern.*							
Scarborough, Bridlington, and West Riding Junction.	*Worked by the North-Eastern.*							
Severn and Wye and Severn Bridge	623,163	345,660	968,823	167,348	Nil	—	—	—
				*147,213**	—	*30,000**	—	—
Sheffield and Midland Committee	Line owned by the "Manchester, Sheffield, and Lincolnshire" and "Midland" Railway							
Shortlands and Nunhead	*Worked by the London, Chatham, and Dover.*							
Shrewsbury and Hereford	675,000	—	675,000	—	—	50,000	4½	4½
"Great Western" and "London and North-Western" Companies in respect of the.						625,000	6	6
Shropshire:								
Shrewsbury (separate Undertaking)	425,000	141,600	566,600	328,465	Nil	—	—	—
Market Drayton (separate Undertaking)	300,000	100,000	400,000	—	—	—	—	—
Shropshire Mineral (Light)	75,000	25,000	100,000	—	—	—	—	—
Shropshire Union Railways and Canal	*Leased to the London and North-Western.*							
Sidmouth	*Worked by the London and South-Western.*							
Snailbeach District	20,000	6,600	26,600	20,000	Nil	—	—	—
Somerset and Dorset	1,867,000	1,289,513	3,156,513	652,294	Nil	—	—	—
				360,000*	3½			
South-Eastern	21,011,755	6,811,375*	27,823,130	30	3½	984,300	4½	4½
				345,000	3⅓	800,000	5⅛	5⅛
				10	4			
				2,948,170	4			
				3,374,910†	6			
				3,374,910‡	2			
				49§	—			
Leased to or worked by the South-Eastern. Cranbrook and Paddock Wood (Light).	130,000	43,000	173,000	122,550	Nil	—	—	—
Leased to or worked by the South-Eastern. London and Greenwich	1,084,260	233,333	1,317,593	861,540	2¾	—	—	—
Leased to or worked by the South-Eastern. Lydd	91,000	30,333	121,333	89,870	4¼	—	—	—
South Hampshire Railway and Pier	322,000	104,000	426,000	—	—	—	—	—
Southport and Cheshire Lines Extension	*Worked by the Cheshire Lines Committee.*							
South Wales Mineral	167,210	83,000	250,210	55,610	Nil	—	—	—

31st December 1892.—England and Wales—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

Share Capital.				Capital raised by Loans and Debenture Stock.					Total Capital paid up and raised by Loans and Debenture Stock.	Subscriptions to other Companies.	Remarks.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
—	–	–	36,230	—	–	10,000	4	10,000	46,230	—	
50,000	4	Nil	623,084	—	–	328,265	4	328,265	951,349	—	In addition to paying interest on loans, &c., the Company paid 1,274*l.* for Land Rentcharges.
107,467	4	Nil									
298,269	4	Nil									
167,456	*4*	*Nil*	*9,757**	—	–	*17,072*	*4*	*17,072*	*7,315*	—	* Nominal reduction of capital.
Companies; the Capital is included in the Returns of those Companies.											
—	–	–	675,000	—	–	—	–	—	675,000	—	
—	–	–	328,465	80,575	5	19,400	5	99,975	428,440	—	
—	–	–	—	—	–	—	–	—	—	—	
—	–	–	—	—	–	—	–	—	—	—	
—	–	–	20,000	2,220	4½	—	–	2,220	22,220	—	
35,655	4½	Nil	1,223,829	—	–	1,232,380	5	1,232,380	2,456,209	12,000	*Bath extension stock.
175,880	5	Nil									The Company pays an annual sum of 374*l.*, by way of Rentcharge, in respect of land purchased.
1,018,175	4	4	17,658,954	2,000	3	349,666	3½	6,036,821	23,695,775	681,116‖	* Subject to a reduction of 250,000*l.* on account of Rentcharges granted by the Company.
2,172,580	4½	4½				1,341,215	4				† Preferred Stock.
2,640,820	5	5				1,500	4½				‡ Deferred Stock.
						4,342,440	5				§ Stock in arrear of calls.
											‖ Consisting of 426,765*l.* subscribed to lines the joint property of the South-Eastern and other Companies and 254,351*l.* to other Companies.
—	–	–	122,550	—	–	—	–	—	122,550	—	
222,720	5	5	1,084,260	64,000	4	29,600	3½	224,860	1,309,120	—	
						131,260	4				
—	–	–	89,870	—	–	25,000	4¼	25,000	114,870	—	
—	–	–	—	—	–	—	–	—	—	—	
105,165	6	Nil	160,775	46,700	5	—	–	49,000	209,775	—	As at 30th September 1892.
				1,300	6						* Capitalized value of Land Rentcharges.
				1,000*	5						

No. 1.—AMOUNT of CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL			PAID-UP STOCK AND				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Southwold	49,000	28,000	77,000	39,910	Nil	—	—	—
South Yorkshire Junction:								
Separate Undertaking	165,000	55,000	220,000	133,720	3½*	—	—	—
General Undertaking	85,000	28,266	113,266	—	—	—	—	—
Staines and West Drayton	*Worked by the Great Western.*							
Stamford and Essendine	*Worked by the Great Northern.*							
Stocksbridge	69,000	23,000	92,000	33,000	Nil	—	—	—
Stonehouse Pool Improvement and Railway	*Worked by the London and South-Western.*							
Stratford-upon-Avon, Towcester, and Midland Junction.	*See* under East and West Junction.							
Sutton and Willoughby	*Worked by the Great Northern.*							
Sutton Bridge Railway and Dock	270,000	89,966	359,966	114,840	Nil	—	—	—
Sutton, Rotherham, and Barnsley	1,000,000	333,333	1,333,333	300	Nil	—	—	—
Swansea and Mumbles	95,000	35,000	130,000	17,230	Nil	—	—	—
Taff Vale	7,625,777	1,305,142	8,930,919	5,192,284	3½	—	—	—
				3,214,284	3¼	—	—	—
Leased to the Taff Vale. — Aberdare	50,000	16,600	66,600	—	—	50,000	10	10
Leased to the Taff Vale. — Cowbridge and Aberthaw	90,000	30,000	120,000	87,160	3½	—	—	—
Leased to the Taff Vale. — Penarth Extension	15,000	5,000	20,000	15,000	Nil	—	—	—
Leased to the Taff Vale. — Penarth Harbour, Dock, and Railway.	772,000	257,000	1,029,000	772,000	5¼	—	—	—
Talyllyn	15,000	5,000	20,000	15,000	Nil	—	—	—
Teign Valley	*Worked by the Great Western.*							
Tenbury Railway "Great Western" and "London and North-Western" Companies in respect of the.	30,000	—	30,000	—	—	30,000	4½	4½
Terrington and Wisbech Tramroads	60,000	15,000	75,000	—	—	—	—	—
Thetford and Watton	*Worked by the Great Eastern.*							
Tiverton and North Devon	*Worked by the Great Western.*							
Tottenham and Forest Gate	450,000	150,000	600,000	225,000	Nil	—	—	—
Tottenham and Hampstead Junction	510,000	—*	510,000	273,170	5¾	—	—	—
Towcester and Buckingham	180,000	60,000	240,000	2,000	Nil	—	—	—
Vale of Glamorgan	360,000	120,000	480,000	—	—	—	—	—

31st December 1892.—ENGLAND AND WALES—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

SHARE CAPITAL.				CAPITAL RAISED BY LOANS AND DEBENTURE STOCK.					TOTAL CAPITAL paid up and raised by Loans and Debenture Stock.	SUBSCRIPTIONS TO OTHER COMPANIES.	REMARKS.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
9,000	5	Nil	48,910	700* 636*	4 5	10,770 14,300	4 5	26,406	75,316	—	* Capitalized value of Rentcharges.
—	–	–	133,720	—	–	—	–	—	133,720	—	* Interest paid at the rate of 3½ per cent. per annum on the paid-up capital.
—	–	–	—	—	–	—	–	—	—	—	
36,000	5	5	69,000	4,000 11,000	4 5	—	–	15,000	84,000	—	
17,200	6	Nil	132,040	35,000 2,700 *1,976	4¼ 5 5	—	–	39,676	171,716	—	* Capitalized value of Land Rentcharges.
—	–	–	300	—	–	—	–	—	300	—	
7,770 30,280	4 6	4 6	55,280	20,000 10,000	4 4½	—	–	30,000	85,280	—	This line is worked as part of the Swansea Improvements and Tramway Company's system of tramways. For further particulars *see* "Tramway Return."
1,909,311	4	4	7,101,595	—	–	1,155,142	3	1,155,142	8,256,737	—	In addition to paying interest on capital, the Company paid 8,903*l.* for Royalties, &c.
331,941	*4*	*4*	*3,546,225*	—	–	*207,147*	*3*	*207,147*	*3,753,372*	—	
—	–	–	50,000	100 9,000	3 3½	—	–	9,100	59,100	—	
—	–	–	87,160	—	–	28,000	3½	28,000	115,160	—	Line opened for traffic on 1st October 1892. Interest at the rate of 3½ per cent. per annum paid out of capital to 30th September 1892, under section 51 of the Cowbridge and Aberthaw Act of 1889, and from that date out of interest received from the Taff Vale Railway Company.
—	–	–	15,000	—	–	5,000	4	5,000	20,000	—	
—	–	–	772,000	—	–	77,510 179,490	3½ 4	257,000	1,029,000	—	
—	–	–	15,000	—	–	—	–	—	15,000	—	
—	–	–	30,000	—	–	—	–	—	30,000	—	
—	–	–	—	—	–	—	–	—	—	—	
225,000	4	Nil	450,000	—	–	150,000	4	150,000	600,000	—	Line not open for traffic.
36,830 100,000 17,500	5 5 4	5 5 4	427,500	—	–	—	–	—	427,500	—	* Line worked by the "Great Eastern" and "Midland" Companies. Borrowing powers vested in the "Midland" Company.
—	–	–	2,000	—	–	—	–	—	2,000	—	
—	–	–	—	—	–	—	–	—	—	—	

No. 1.—AMOUNT of CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL.			PAID-UP STOCK AND				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Vale of Llangollen	*Worked by the Great Western.*							
Van	20,000	6,666	26,666	20,000	Nil	—	—	—
Victoria Station and Pimlico	412,500	137,500	550,000	225,000	9½	—	—	—
Wainfleet and Firsby	*Worked by the Great Northern.*							
Watton and Swaffham	*Worked by the Great Eastern.*							
Wear Valley Extension	60,000	20,000	80,000	—	—	—	—	—
Wellingborough and District Tramroads	131,000	39,500	170,500	2,000	Nil	—	—	—
Wellington and Severn Junction	Amalgamated with the Great Western under Act 55 & 56 Vict. c. 233							
Wenlock	*Worked by the Great Western.*							
West Cornwall Railway	*See under Great Western.*							
West Lancashire	777,500	709,126	1,486,626	153,770	Nil	—	—	—
Liverpool, Southport, and Preston Junction.	200,000	66,600	266,600	78,014	Nil	—	—	—
West London	180,380	—	180,380	—	—	101,180 64,000 15,200	2 3½ 6	2 3½ 6
West London Extension	555,000*	22,800	577,800	555,000†	Nil	—	—	—
West Riding and Grimsby Joint Committee	Line owned by the "Great Northern" and "Manchester, Sheffield, and Lincolnshire"							
West Somerset	*Leased to the Great Western.*							
West Somerset Mineral	75,000	30,000	105,000	42,500	5	—	—	—
Weymouth and Portland	75,000	25,000	100,000	75,000	4 9/20	—	—	—
Wigan Junction	*Worked by the Manchester, Sheffield, and Lincolnshire.*							
Wirral	1,143,000	380,830	1,523,830	286,670	Nil	—	—	—
Wivenhoe and Brightlingsea	*Worked by the Great Eastern.*							
Woodside and South Croydon Joint Committee.	Line owned by the "London, Brighton, and South Coast" and "South-Eastern" Railway							
Woodstock	30,000	10,000	40,000	30,000	Nil	—	—	—
Worcester and Broom	180,000	60,000	240,000	3,500	Nil	—	—	—
Wrexham and Ellesmere	180,000	60,000	240,000	113,680	3*	—	—	—
Wrexham, Mold, and Connah's Quay	907,750	658,415	1,566,165	451,185	Nil	—	—	—
				18,749	*Nil*	—	—	—
Buckley	90,000	30,000	120,000	44,872	5	—	—	—
Wye Valley	*Worked by the Great Western.*							
TOTAL ENGLAND AND WALES	627,229,282	241,483,285	868,712,567	285,042,936	—	84,159,138	—	—
				12,505,199	—	*6,476,834*	—	—

31st December 1892.—ENGLAND AND WALES—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

SHARE CAPITAL.				CAPITAL RAISED BY LOANS AND DEBENTURE STOCK.					TOTAL CAPITAL paid up and raised by Loans and Debenture Stock.	SUBSCRIPTIONS TO OTHER COMPANIES.	REMARKS.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
—	–	–	20,000	1,666*	3¾	3,000	6	4,666	24,666	—	* Capitalized value of Land Rentcharges.
130,000	4½	4½	355,000	—	–	132,322	4½	132,322	487,322	—	
—	–	–	—	—	–	—	–	—	—	—	
—	–	–	2,000	—	–	—	–	—	2,000	—	
532,416	5	Nil	686,186	—	–	654,406	5	654,406	1,340,592	—	
—	–	–	78,014	—	–	—	–	—	78,014	—	
—	–	–	180,380	—	–	—	–	—	180,380	—	
—	–	–	555,000	18,300	4	—	–	18,300	573,300	—	* Amount authorised to be subscribed by the owning Companies.
Railway Companies; the Capital is included in the Returns of those Companies.											† Amount subscribed by the owning Companies.
32,500	6	6	75,000	13,700	5	16,300	5	30,000	105,000	10,000	
—	–	–	75,000	—	–	14,250 10,750	4 4½	25,000	100,000	—	Line worked by the "Great Western" and "London and South-Western" Companies.
130,000	4½	4½	416,670	105,930	4	55,000	4	160,930	577,600	—	
Companies; the Capital is included in the Returns of those Companies.											
—	–	–	30,000	—	–	10,000	4½	10,000	40,000	—	
—	–	–	3,500	—	–	—	–	—	3,500	—	
—	–	–	113,680	—	–	—	–	—	113,680	—	* Rate of interest paid during construction, as authorised by the Company's Act of 1888.
112,794	4	Nil	563,979	436*	5	490,317	4	490,753	1,054,732	—	* Capitalized value of Land Rentcharges.
—	–	–	*18,749*	—	–	*48,909*†	*4*	*48,909*†	*30,160*†	—	† Nominal reduction of Capital.
19,800	5	5	64,672	—	–	—	–	—	64,672*	—	* Exclusive of 200*l.* preference capital, 1,200*l.* ordinary capital, and 20,000*l.* debentures exchanged for A. Debenture Stock of the Wrexham, Mold, and Connah's Quay Railway Company.
196,704,719	–	–	565,906,793	9,846,857	–	201,385,245	–	211,232,102	777,138,895	31,350,275	TOTAL ENGLAND AND WALES.
13,818,923	–	–	*32,795,956*	—	–	*11,679,348*	–	*11,679,348*	*44,475,304*	—	

No. 1.– AMOUNT of CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL.			PAID-UP STOCK AND				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Anstruther and St. Andrews	*Worked by the North British.*							
Arbroath and Forfar	*Leased to the Caledonian.*							
Ayr and Maybole	*Leased to the Glasgow and South-Western.*							
Ayrshire and Wigtownshire	Sold to the Glasgow and South-Western under Act 55 & 56 Vict. c. 98.							
Brechin and Edzell District	37,500	12,500	50,000	—	—	—	—	—
Caledonian	36,691,610	9,668,410	46,360,020	12,592,722 2,508,027* 276,666†	4½ Nil Nil	8,549,654‡	4	4
				2,784,693	*Nil*	*2,182,894*	*4*	*4*
Leased to or worked by the Caledonian. — Arbroath and Forfar	250,000	16,666	266,666	189,950	5⅝	40,000	5	5⅝
Leased to or worked by the Caledonian. — Callander and Oban	583,900	194,600	778,500	276,710	3⅛	—	—	—
Leased to or worked by the Caledonian. — Cathcart District	284,000	194,330	478,330	269,940	Nil	—	—	—
Leased to or worked by the Caledonian. — Dundee and Newtyle	140,000	30,000	170,000	111,650	1¼	—	—	—
Leased to or worked by the Caledonian. — Greenock and Wemyss Bay	150,000	50,000	200,000	85,000 35,000	2½ 4$\frac{2}{25}$	—	—	—
Leased to or worked by the Caledonian. — Killin	27,000	9,000	36,000	20,785	1⅓	—	—	—
Leased to or worked by the Caledonian. — Lanarkshire and Ayrshire	325,000	225,000	550,000	281,767	½	—	—	—
Leased to or worked by the Caledonian. — Solway Junction	398,000	146,000	544,000	329,186	Nil	—	—	—
Callander and Oban	*Worked by the Caledonian.*							
Cathcart District	*Worked by the Caledonian.*							
City of Glasgow Union	1,200,000	216,600	1,416,600	600,000	5	550,000	5	5
Crieff and Comrie	45,000	15,000	60,000	36,714	Nil	—	—	—
Dundee and Newtyle	*Leased to the Caledonian.*							
Dundee Suburban	250,000	83,300	333,300	37,000	Nil	—	—	—
Edinburgh and Bathgate	*Leased to the North British.*							
Eyemouth	*Worked by the North British.*							

31st December 1892.—SCOTLAND.

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

Share Capital.				Capital raised by Loans and Debenture Stock.					Total Capital paid up and raised by Loans and Debenture Stock.	Subscriptions to other Companies.	Remarks.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
—	–	–	—	—	–	—	–	—	—	—	
8,723,151	4	4	34,290,110	—	–	8,775,965	4	8,775,965	43,066,075	963,877	As at 31st January 1893.
1,639,890	5	5									* Deferred ordinary stock No. 1.
1,475,008	*4*	*4*	*6,442,595*	—	–	—	–	—	*6,442,595*	—	† Deferred ordinary stock No. 2.
											‡ This amount includes two sums, viz., 590,375*l.* and 283,825*l.*, a moiety of the dividends on which are repaid by the "North British" and "Glasgow and South-Western" Companies respectively to the "Caledonian" Company.
—	–	–	229,950	—	–	—	–	—	229,950	—	
305,000	4½	4½	581,710	77,026	3¼	78,767	4	155,793	737,503	—	As at 31st January 1893.
—	–	–	269,940	—	–	150,495	4	150,495	420,435	—	As at 31st January 1893.
—	–	–	111,650	—	–	—	–	—	111,650	—	As at 30th April 1893.
30,000	5	5	150,000	—	–	10,170	4	10,170	160,170	—	As at 31st January 1893
4,000	4	4	24,785	6,000	3½	—	–	6,000	30,785	—	As at 31st January 1893.
42,150	4½	4	323,917	75,000	3½	100,000	3½	175,000	498,917	—	As at 31st January 1893.
—	–	–	329,186	—	–	138,183	3½	138,183	467,369	—	
—	–	–	1,150,000	1,300 50,917	3 3¼	76,685	4	128,902	1,278,902	—	As at 31st January 1893.
—	–	–	36,714	—	–	—	–	—	36,714	—	
—	–	–	37,000	—	–	—	–	—	37,000	—	

No. 1.—AMOUNT of CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL.			PAID-UP STOCK AND				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Findhorn	9,000	3,000	12,000	8,962	Nil	—	—	—
Forfar and Brechin	128,400	40,000	168,400	78,229	Nil	—	—	—
Forth and Clyde Junction	*Leased to the North British.*							
Forth Bridge	*Worked by the North British.*							
Garve and Ullapool	240,000	80,000	320,000	—	—	—	—	—
Gifford and Garvald	111,000	30,000	141,000	—	—	—	—	—
Glasgow and South-Western	12,251,711	3,456,800	15,708,511	4,927,920 442,250	4½ Nil	1,325,000 935,450	4 4	4 4
				442,250	*Nil*	*187,090*	*4*	*4*
Leased to or worked by the Glasgow and South-Western: Ayr and Maybole	34,500	—*	34,500	34,500	7	—	—	—
Leased to or worked by the Glasgow and South-Western: Kilmarnock and Troon	40,000	—	40,000	40,000	5¼	—	—	—
Glasgow, Yoker, and Clydebank	*Worked by the North British.*							
Great North of Scotland	4,560,480	1,269,354	5,829,834	920,132 102,822* 397,396†	3½ ¼ Nil	1,230,252 363,862	4 4	4 4
				102,822 *397,396*	¼ *Nil*	*351,666*	*4*	*4*
Greenock and Wemyss Bay	*Worked by the Caledonian.*							
Highland	3,973,113	1,656,413	5,629,526	2,095,383	4⅞	76,000	6	6
Killin	*Worked by the Caledonian.*							
Kilmarnock and Troon	*Leased to the Glasgow and South-Western.*							
Kilsyth and Bonnybridge	136,000	45,300	181,300	131,980	Nil	—	—	—
Kirkcaldy and District	504,000	168,000	672,000	110,820	Nil	—	—	—
Lanarkshire and Ayrshire	*Worked by the Caledonian.*							
Lanarkshire and Dumbartonshire	987,000	312,333	1,299,333	174,800	Nil	—	—	—
Newport	*Leased to the North British.*							
North British	39,272,672	13,428,405	52,701,077	9,163,650 6,741,165	⅜ 2¾	—	—	—
				9,163,650	⅜	—	—	—

31st December 1892.—SCOTLAND—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

Share Capital.				Capital raised by Loans and Debenture Stock.					Total Capital paid up and raised by Loans and Debenture Stock.	Subscriptions to other Companies.	Remarks.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
—	–	–	8,962	1,750	4½	—	–	1,750	10,712	—	The revenue never paid the working expenses, and in consequence the working of the line was discontinued in 1869.
—	–	–	78,229	21,500	4	—	–	21,500	99,729	—	
—	–	–	—	—	–	—	–	—	—	—	
—	–	–	—	—	–	—	–	—	—	—	
1,892,150	4	4	11,760,411	5,000	2¾	2,969,111	4	3,043,791	14,804,202	421,276	As at 31st January 1893.
1,555,941	4	4		28,370	3						* Capitalized value of Land Rentcharges.
285,000	4	4		41,310*	5						
396,700	4	4									
358,480	*4*	*4*	*1,163,711*	—	–	—	–	—	*1,163,711*	—	
175,941	*4*	*4*									
—	–	–	34,500	—	–	—	–	—	34,500	—	* Borrowing powers transferred to the "Glasgow and South-Western" Company.
—	–	–	40,000	—	–	—	–	—	40,000	—	
593,556	4	4	4,438,020	18,567	3	976,201	4	1,138,689	5,576,709	—	As at 31st January 1893.
405,000	4	4		58,985	3½						* Deferred ordinary stock No. 1 entitled to participate *pari passu* with the ordinary stock in any dividend beyond 3 per cent.
200,000	4	4		65,986	3⅝						
134,050	4⅛	4⅛		18,950	4						† Deferred ordinary stock No. 2 entitled to participate *pari passu* with the ordinary stock and deferred stock No. 1 in any dividend beyond 5 per cent.
90,950	5	5									
110,985	*4*	*4*	*962,869*	—	–	*50,301*	*4*	*50,301*	*1,013,170*	—	
513,650	4½	4½	3,554,113	—	–	1,266,307	4	1,656,340	5,210,453	—	As at 28th February 1893.
400,000	5	5				390,033	4¼				* Dividend accrues from 15th May 1893.
45,000	5	5									
59,080	6	6									
365,000	4	–*									
—	–	–	131,980	—	–	43,300	4	43,300	175,280	—	As at 31st January 1893.
—	–	–	110,820	—	–	—	–	—	110,820	—	The line is worked by the "Caledonian" and "North British" Railway Companies.
—	–	–	174,800	—	–	-	–	—	174,800	—	As at 31st January 1893.
6,320	1¾	1¾	37,803,991	73,870	3	12,216,735	3	12,652,583	50,456,574	845,745	As at 31st January 1893.
12,429,293	4	4		271,404	3¼						* Dividend accrues from 1st February 1893.
5,360,262	4½	4½		73,000	3½						† Dividend accrues from 1st August 1893.
1,411,603	5	5		217	3¾						
563,379	6	6		17,857	4						
1,004,000	4	–*									
1,124,319	4	–†									
2,331,364	*4*	*4*	*11,543,014*	—	–	*3,265,485*	*3*	*3,265,485*	*14,810,499*	—	

No. 1.—AMOUNT of CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL.			PAID-UP STOCK AND				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
North British—*cont.*	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Leased to or worked by the North British. Anstruther and St. Andrew's	117,000	39,000	156,000	56,880 5,000*	Nil Nil	—	—	—
Edinburgh and Bathgate	250,000	—	250,000	250,000	5	—	—	—
Eyemouth	30,000	10,000	40,000	19,990	3	—	—	—
Forth and Clyde Junction	192,000	64,000	256,000	106,390	7	64,000	5	5
Forth Bridge	2,325,000	774,999	3,099,999	2,325,000	4	—	—	—
Glasgow, Yoker, and Clydebank	108,500	36,130	144,630	88,600	5¼	—	—	—
Newport	46,000	15,300	61,300	46,000	4⅓	—	—	—
Portpatrick and Wigtownshire Joint Committee.	491,980	188,000	679,980	—	—	491,980	3½	3½
Solway Junction	*Leased to the Caledonian.*							
West Highland	629,000	197,000	826,000	400,942	Nil	—	—	—
TOTAL SCOTLAND	106,819,366	32,675,440	139,494,806	46,319,928	—	13,626,198	—	—
				12,890,811	—	*2,721,650*	—	—

31st December 1892.—SCOTLAND—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

SHARE CAPITAL.				CAPITAL RAISED BY LOANS AND DEBENTURE STOCK.					TOTAL CAPITAL paid up and raised by Loans and Debenture Stock.	SUBSCRIPTIONS TO OTHER COMPANIES.	REMARKS.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
55,000	5	1¾	116,880	—	–	34,700	4	34,700	151,580	—	As at 31st January 1893. * Deferred ordinary shares.
—	–	–	250,000	—	–	—	–	—	250,000	—	
—	–	–	19,990	—	–	5,000	3	5,000	24,990	—	
4,520 16,480	5 6	5 6	191,390	—	–	61,595	4	61,595	252,985	—	As at 31st January 1893.
—	–	–	2,325,000	—	–	723,333	4	723,333	3,048,333	—	
—	–	–	88,600	—	–	28,242	4	28,242	116,842	—	As at 31st January 1893.
—	–	–	46,000	6,000	3	5,100 4,200	3½ 4	15,300	61,300	—	
—	–	–	491,980	57,964	3½	—	–	57,964	549,944	—	As at 31st January 1893.
—	–	–	400,942	90,000	3½	—	–	90,000	490,942	—	
39,655,444	–	–	99,601,570	1,060,473	–	28,054,122	–	29,114,595	128,716,165	2,230,898	TOTAL SCOTLAND.
4,501,728	–	–	*20,114,189*	—	–	*3,315,786*	–	*3,315,786*	*23,429,975*	—	

No. 1.—AMOUNT OF CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL.			PAID-UP STOCK AND				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Athenry and Ennis Junction	*Leased to the Waterford and Limerick.*							
Athenry and Tuam	*Leased to the Waterford and Limerick.*							
Ballycastle	90,000	45,000	135,000	51,574	Nil	*10,000	5	4⅕
Belfast and County Down (*See* also Downpatrick, Killough, and Ardglass, page 46.)	991,091	386,166	1,377,257	295,950	6½	17,000	3	3
Belfast and Northern Counties	1,903,838	778,819	2,682,657	816,989	5½	—	—	—
				—	—	—		—
Leased to or worked by the Belfast and Northern Counties. — Derry Central	220,000	100,000	320,000	25,230	Nil	60,000	5	5
Leased to or worked by the Belfast and Northern Counties. — Draperstown	40,000	20,000	60,000	11,938	Nil	17,000	5	5
Leased to or worked by the Belfast and Northern Counties. — Limavady and Dungiven	75,000	25,000	100,000	20,000* 46,733	5 Nil	—	—	—
Central Ireland Railways	*See under Waterford and Central Ireland.*							
City of Dublin Junction	*See under Dublin, Wicklow, and Wexford.*							
Clara and Banagher	*Worked by the Great Southern and Western of Ireland.*							
Clonakilty Extension	*Worked by the Cork, Bandon, and South Coast.*							
Cork and Fermoy and Waterford and Wexford	800,000	400,000	1,200,000	400	Nil	—	—	—
Cork and Macroom Direct	136,200	99,168	235,368	91,812	1¼	—	—	—
Cork, Bandon, and South Coast (*See* also Bantry Bay Extension, p. 46.)	564,638	179,000	743,638	240,000	2½	—	—	—
Worked by the Cork, Bandon, and South Coast. — Bantry Extension	70,000	35,000	105,000	30,000	Nil	40,000	5	5
Worked by the Cork, Bandon, and South Coast. — Clonakilty Extension	40,000	20,000	60,000	25,000	Nil	15,000*	5	5
Worked by the Cork, Bandon, and South Coast. — Ilen Valley	80,000	40,000	120,000	27,000	Nil	53,000	5	5
Cork, Blackrock, and Passage	158,000	51,930	209,930	118,340	1	—	—	—
Derry Central	*Worked by the Belfast and Northern Counties.*							
Derry City and County	350,000	175,000	525,000	—	—	—	—	—

31st December 1892.—IRELAND.

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

Share Capital.				Capital raised by Loans and Debenture Stock.					Total Capital paid up and raised by Loans and Debenture Stock.	Subscriptions to other Companies.	Remarks.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
—	–	–	61,574	20,000 10,000	4 5	—	–	30,000	91,574	—	* Baronial Guaranteed Shares.
200,000 50,000 248,141	4 4½ 5	4 4½ 5	811,091	3,807*	5	138,000 162,166	3 4	303,973	1,115,064	7,500	* Capitalized value of Land Rentcharges.
993,025	4	4	1,810,014	30,000 1,400 100	3⅝ 4 4½	666,412	4	697,912	2,507,926	117,486	
55,575	*4*	*4*	*55,575*	—	–	—	–	—	*55,575*	—	
35,110	5	Nil	120,340	100,000	4	—	–	100,000	220,340	—	
430	5	Nil	29,368	15,000*	4	—	–	15,000	44,368	—	* Borrowed from the Board of Works.
—	–	–	66,733	19,601	4	—	–	19,601	86,334	—	* Interest at 5 per cent. per annum guaranteed on this amount for 23 years from the opening of the railway by the "Skinners" Company of London.
—	–	–	400	—	–	—	–	—	400	—	
44,150	5	5	135,962	10,170	4	56,740	4	66,910	202,872	—	
264,872 48,000	4 5½	4 5½	552,872	—	–	78,044 71,656	4 4½	149,700	702,572	17,500	In addition to the sums raised by the issue of stocks and shares, the Government have sanctioned a "Free Grant" to the Company of 15,000*l.* towards the cost of the construction of the Bantry Bay Extension line. The amount paid to the Company up to 31st December 1892 was 11,571*l.*, *see* p. 46.
—	–	–	70,000	—	–	35,000	5	35,000	105,000	—	
—	–	–	40,000	20,000	4	—	–	20,000	60,000	—	* Barouial Guaranteed Shares.
—	–	–	80,000	3,150	4	36,750	4	39,900	119,900	—	
18,640 2,000	4⅓ 5	4⅓ 5	138,980	2,650 900	4 4½	36,550 300 2,500	4 4½ 4½	42,900	181,880	—	
—	–	–	—	—	–	—	–	—	—	—	

No. 1.—AMOUNT of CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL.			PAID-UP STOCK AND				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Donegal (*See* also Donegal and Killybegs, p. 46.)	182,000	90,000	272,000	58,749	Nil	24,760	5	5
Draperstown	*Worked by the Belfast and Northern Counties.*							
Dublin and Kingstown	*Leased to the Dublin, Wicklow, and Wexford.*							
Dublin, Wicklow, and Wexford	1,815,000	718,232	2,533,232	700,150	¾	—	—	—
City of Dublin Junction	300,000	100,000	400,000	25,000	Nil	225,000	4	4
Leased to the Dublin, Wicklow, and Wexford. } Dublin and Kingstown	350,000	110,000	460,000	350,000	9½	—	—	—
Dundalk, Newry, and Greenore	451,000	—*	451,000	355,900	Nil	—	—	—
Enniskillen, Bundoran, and Sligo	*Worked by the Great Northern of Ireland.*							
Fermoy and Lismore	*Worked by the Great Southern and Western.*							
Finn Valley	Amalgamated with the West Donegal under Act 55 & 56 Vict. c. 161, and name changed							
Great Northern of Ireland	5,732,514	2,032,588	7,765,102	3,469,117	5¾	869,270	4	4
				—	—	*144,854*	*4*	*4*
Worked by the Grt. Northern of Ireland. } Enniskillen, Bundoran, and Sligo.	300,000	256,853	556,853	46,850	Nil	—	—	—
Great Southern and Western of Ireland (*See also* Mitchelstown and Fermoy, p. 44, and Headford and Kenmare and Killorglin and Valentia, p. 46.)	6,309,940	2,320,879	8,630,819	4,970,455	4⅞	—	—	—
Worked by the Gt. Southern and Western of Ireland. } Clara and Banagher	85,000	68,300	153,300	60,219	Nil	—	—	—
Worked by the Gt. Southern and Western of Ireland. } Fermoy and Lismore	100,000	33,000	133,000	100,000	Nil	—	—	—
Lien Valley	*Worked by the Cork, Bandon, and South Coast.*							
Kanturk and Newmarket	Sold to the Great Southern and Western of Ireland under Act 55 & 56 Vict. c. 113.							
Kilkenny Junction	*Worked by the Waterford and Central Ireland.*							
Kingstown and Kingsbridge Junction	300,000	150,000	450,000	—	—	—	—	—
Letterkenny	*Worked by the Londonderry and Lough Swilly.*							
Limavady and Dungiven	*Worked by the Belfast and Northern Counties.*							
Limerick and Kerry	*Worked by the Waterford and Limerick.*							
Listowel and Ballybunion	22,000	11,000	33,000	22,000	Nil	—	—	—
Londonderry and Lough Swilly	135,000	36,052	171,052	41,489	3½	—	—	—
Worked by the Londonderry and Lough Swilly. } Letterkenny	150,000	123,000	273,000	57,155	Nil	—	—	—

31st December 1892.—IRELAND—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

SHARE CAPITAL.				CAPITAL RAISED BY LOANS AND DEBENTURE STOCK.					TOTAL CAPITAL paid up and raised by Loans and Debenture Stock.	SUBSCRIPTIONS TO OTHER COMPANIES.	REMARKS.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
20,680	4	Nil	104,189	1,827 40,000	3½ 4	30,462	5	72,289	176,478	—	
120,000	4	4	1,770,150	—	–	320,812	4	673,226	2,443,376	—	
150,000	4½	4½				257,984	4¼				
600,000	5	5				94,430	4½				
200,000	6	6									
50,000	4	Nil	300,000	—	–	14,500	4	14,500	314,500	—	
—	–	–	350,000	300	Nil	61,000	3½	61,300	411,300	—	
—	–	–	355,900	—	–	—	–	—	355,900	—	*Borrowing powers transferred to the "London and North-Western" Railway Company.
to "Donegal," which *see.*											
1,150,885	4	4	5,489,272	—	–	993,462	4	1,854,685	7,343,957	2,000	
						456,687	4¼				
						60,011	4½				
						334,525	5				
6,310	*4*	*4*	*148,164*	—	–	—	–	—	*148,164*	—	
100,000	5	Nil	146,850	88,663	4	153,453	3	250,102	396,952	—	
						7,986	5				
1,329,100	4	4	6,299,555	—	–	2,101,433	4	2,101,433	8,400,988	13,000	
20,000	5	Nil	80,219	66,187	4	—	–	66,187	146,406	—	
—	–	–	100,000	32,055	5	—	–	32,055	132,055	—	
	–	–	—	—	–	—	–	—	—	—	
—	–	–	22,000	11,000	5	—	–	11,000	33,000	—	
49,625	5	5	91,114	7,766 11,748	4 5	10,000	5	29,514	120,628	—	
—	–	–	57,155	85,000 2,750	4 5	—	–	87,750	144,905	—	

No. 1.—AMOUNT of CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL.			PAID-UP STOCK AND				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Midland Great Western of Ireland - - (*See also* Ballinrobe and Claremorris and Loughrea and Attymon, page 44, and Ballina and Killala, Galway and Clifden, and Westport and Mallaranny, p. 46.)	4,131,980	2,331,300	6,463,280	2,370,000	4½	452,236	4	4
Parsonstown and Portumna Bridge - -	—*	—*	—*	—	—	—	—	—
Rathkeale and Newcastle Junction - -	*Worked by the Waterford and Limerick.*							
Sligo, Leitrim, and Northern Counties -	240,000	120,000	360,000	100,000	Nil	50,000	5	5
Southern - - - - - -	*Worked by the Waterford and Limerick.*							
Tralee and Fenit - - -	*Worked by the Waterford and Limerick.*							
Waterford and Central Ireland - - -	450,000	189,000	639,000	250,000	Nil	—	—	—
Central Ireland Railways - -	120,000	40,000	160,000	15,000 12,480	4½ 5	—	—	—
Worked by the Waterford and Central Ireland. — Kilkenny Junction - -	214,000	256,480	470,480	60,575	Nil	—	—	—
Waterford and Limerick - - - -	1,723,530	651,131	2,374,661	597,550	Nil	—	—	—
Leased to or worked by the Waterford and Limerick. — Athenry and Ennis Junction	195,000	91,600	286,600	99,190	Nil	—	—	—
Athenry and Tuam -	90,000	30,000	120,000	61,770	1	—	—	—
Limerick and Kerry - -	124,950*	285,050*	410,000	110,000	Nil	14,950	5	5
Rathkeale and Newcastle Junction.	28,180	93,000	121,180	16,513	Nil	—	—	—
Southern - - - -	201,000	181,900	382,900	71,320	Nil	62,900	5	5
Tralee and Fenit - -	45,000	15,000	60,000	13,850	Nil	30,000	5	5
Waterford and Tramore - - -	58,000	19,350	77,350	48,000	3	—		—
Waterford and Wexford - - - -	200,100	66,700	266,800	62,984	Nil	—	—	—
Waterford, Dungarvan, and Lismore - -	280,000	113,333	393,333	280,000	5*	—	—	—
West Donegal - - - -	Amalgamated with the Finn Valley under Act 55 & 56 Vict. c. 161, and name changed							
TOTAL IRELAND - -	29,852,961	12,888,831	42,741,792	16,227,282 —	— —	1,941,116 *141,854*	— —	— —

31st December 1892.—IRELAND—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

SHARE CAPITAL.				CAPITAL RAISED BY LOANS AND DEBENTURE STOCK:					TOTAL CAPITAL paid up and raised by Loans and Debenture Stock.	SUBSCRIPTIONS TO OTHER COMPANIES	REMARKS.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
830,000	4	4	3,952,236	—	–	1,127,784	4	2,098,823	6,051,059	—	
300,000	5	5				769,339	4¼				
						201,700	4½				
—	–	–	—	—	–	—	–	—	—	—	* The line was taken possession of by a creditor on 6th January 1879, and has been closed for traffic since that date.
50,000	5	Nil	200,000	100,000	4	—	–	100,000	300,000	—	
196,885	6	4¾	446,885	21,680	4	54,590	4¼	188,443	635,328	8,750	As at 29th September 1892.
				2,300	4¼	12,700	4⅓				
				14,885	4⅓	82,288	5				
—	–	–	27,480	—	–	—	–	—	27,480	—	As at 29th September 1892.
40,880	6	Nil	101,455	2,320*	5	233,871	5	236,191	337,646	1,898	As at 1st November 1892. * Capitalized value of Land Rentcharges.
318,950	4	4	1,563,825	—	–	210,340	4	634,464	2,198,289	117,562	
362,900	4½	4½				41,150	4¼				
255,275	5	5				10,000	4⅔				
29,150	5½	5½				372,974	4½				
66,590	5	Nil	185,780	53,250	5	—	–	53,250	239,030	—	
20,000	5	Nil									
—	–	–	61,770	13,648	4	—	–	13,648	75,418	—	As at 25th March 1893.
—	–	–	124,950	15,800	6	172,550	4	279,618	404,568	—	*Under the Company's Act of 1884, the guaranteed shares and the debenture loans are being converted into debenture stock.
						17,500	4				
						73,768	4				
10,050	5	Nil	26,563	16,600	5	2,300	4⅓	93,000	119,563	—	
						74,100	5				
67,650	5	Nil	201,870	69,594	4	34,803	4	104,397	306,267	—	
—	–	–	43,850	15,000	5	—	–	15,000	58,850	—	
10,000	5	5	58,000	10,850	4	—	–	18,850	76,850	—	
				8,000	4¼						
—	–	–	62,984	66,700	5	—	–	66,700	129,684	—	* The dividend is payable by presentment to be levied off the rateable property of the county of Waterford, and of the county of the city of Waterford, for five years granted for the construction of the railway, and for 35 years after its opening for public traffic.
—	–	–	280,000	93,270	4	—	–	113,270	393,270	—	
				20,000	5						
to "Donegal" which *see.*											
8,252,988	–	–	26,421,386	1,107,971	–	9,682,620	–	10,790,591	37,211,977	285,696	TOTAL IRELAND.
61,885	–	–	*203,739*	—	–	—	–	—	*203,739*	—	

No. 1.—AMOUNT of CAPITAL, &c., upon the

NOTE.—The figures in *italics* show the amounts (included in the figures in Roman type) by

NAME OF COMPANY.	AUTHORISED CAPITAL.			PAID-UP STOCK AND				
				Ordinary.		Guaranteed.		
	By Shares and Stock.	By Loans and Debenture Stock.	Total.	Amount.	Rate of Dividend paid.	Amount.	Guaranteed Rate of Dividend.	Rate of Dividend paid.
LIGHT RAILWAYS AUTHORISED UNDER THE								
	£	£	£	£	Per cent.	£	Per cent.	Per cent.
Armagh and Keady	40,000	—	40,000	—	—	2,011	4	—
Athenry and Tuam Extension to Claremorris	100,000	—	100,000	2,000	Nil	74,860	4	—*
Ballinlscarthy and Timoleague Junction	*See* under Timoleague and Courtmacsherry Extension.							
Ballinrobe and Claremorris	90,000	—	90,000	—	—	71,640	5	Nil
Bessbrook and Newry Tramway	20,000	6,500	26,500	15,000	Nil	—	—	—
Bray and Enniskerry	50,000	25,000	75,000	25,000	Nil	—	—	—
Carrickfergus Harbour Junction	7,500	5,000	12,500	730	Nil	6,500	5	5
Cavan, Leitrim, and Roscommon Light Railway and Tramway.	300,000	—	300,000	—	—	200,000	5	5
Clogher Valley Tramway	150,000	—	150,000	—	—	126,770	5	5
Cork and Muskerry	75,000	—	75,000	—	—	75,000	5	5
Donoughmore Extension	35,000	—	35,000	1,500	Nil	24,827	4	4
Loughrea and Attymon	70,000	—	70,000	—	—	54,445	5	5
Macroom and Ballyvourney	60,000	—	60,000	—	—	—	—	—
Mitchelstown and Fermoy	60,000	—	60,000	—	—	60,000	5	5
Schull and Skibbereen Tramway and Light Railway.	57,000	—	57,000	—	—	57,000	5	5
Schull and Skibbereen Tramway and Light Railway Extension.	1,500	—	1,500	—	—	—	—	—
South Clare	140,000	—	140,000	20,000	Nil	108,000	4	4
Timoleague and Courtmacsherry Extension and Ballinlscarthy and Timoleague Junction.	35,000	—	35,000	—	—	35,000	5	5
Tralee and Dingle	150,000	—	150,000	30,000	Nil	120,000	4	4
West Carbery	The name of the Company has been changed to Schull and Skibbereen, which *see*.							
West Clare (Limited)	180,000	—	180,000	16,500	Nil	163,500	4	4
TOTAL LIGHT RAILWAYS	1,621,000	36,500	1,657,500	110,730	—	1,179,553	—	—
GRAND TOTAL, IRELAND	31,473,961	12,925,331	44,399,292	16,338,012 —	— —	3,120,669 *141,854*	— —	— —

31st December 1892.—IRELAND—*continued.*

which the Capitals of the Companies have been nominally increased. *See* note, page 1.

SHARE CAPITAL.				CAPITAL RAISED BY LOANS AND DEBENTURE STOCK					TOTAL CAPITAL paid up and raised by Loans and Debenture Stock.	SUBSCRIPTIONS TO OTHER COMPANIES.	REMARKS.
Preferential.			Total Paid-up Stock and Share Capital.	Loans.		Debenture Stock.		Total raised by Loans and Debenture Stock.			
Amount.	Preferential Rate of Dividend.	Rate of Dividend paid.		Amount.	Rate of Interest.	Amount.	Rate of Interest.				
TRAMWAYS (IRELAND) ACTS, 1860 TO 1883.											
£	Per cent.	Per cent.	£	£	Per cent.	£	Per cent.	£	£	£	
—	–	–	2,011	—	–	—	–	—	2,011	—	
—	–	–	76,860	—	–	—	–	—	76,860	—	*The County of Mayo has guaranteed 4 per cent. per annum interest on 98,000*l.* of the capital of the Company. The guarantee does not become operative until the line is completed and open for public traffic.
—	–	–	71,640	—	–	—	–	—	71,640	—	As at 31st October 1892. Worked by the Midland Great Western.
—	–	–	15,000	—	–	—	–	—	15,000	—	
—	–	–	25,000	—	–	—	–	—	25,000	—	Line not open for public traffic.
—	–	–	7,230	—	–	—	–	—	7,230	—	
—	–	–	200,000	—	–	—	–	—	200,000	—	As at 1st November 1892.
—	–	–	126,770	—	–	—	–	—	126,770	—	As at 30th September 1892.
—	–	–	75,000	—	–	—	–	—	75,000	—	
—	–	–	26,327	—	–	—	–	—	26,327	—	
—	–	–	54,445	—	–	—	–	—	54,445	—	Worked by the Midland Great Western.
—	–	–	—	—	–	—	–	—	—	—	
—	–	–	60,000	—	–	—	–	—	60,000	—	Worked by the Great Southern and Western.
—	–	–	57,000	—	–	—	–	—	57,000	—	
—	–	–	—	—	–	—	–	—	—	—	
—	–	–	128,000	—	–	—	–	—	128,000	—	As at 31st October 1892.
—	–	–	35,000	—	–	—	–	—	35,000	—	
—	–	–	150,000	—	–	—	–	—	150,000	—	As at 30th November 1892.
—	–	–	180,000	—	–	—	–	—	180,000	—	As at 31st October 1892.
—	–	–	1,290,283	—	–	—	–	—	1,290,283	—	TOTAL LIGHT RAILWAYS.
8,252,988	–	–	27,711,669	1,107,971	–	9,682,620	–	10,790,591	38,502,260	285,696	GRAND TOTAL, IRELAND.
61,885	–	–	*203,739*	–	–	—	–	—	*203,739*	—	

Table No. 1a.

RAILWAYS AUTHORISED UNDER THE LIGHT RAILWAYS (IRELAND) ACT, 1889, THE RAILWAYS (IRELAND) ACT, 1890, AND THE TRANSFER OF RAILWAYS (IRELAND) ACT, 1890.

Amount to be Contributed from Public Funds towards the Construction of Railways authorised under the Light Railways (Ireland) Act, 1889, the Railways (Ireland) Act, 1890, and the Transfer of Railways (Ireland) Act, 1890.

Name of Railway.	Length of Line.	Amount to be Contributed from Public Funds.	Working Railway Company.
	Miles.	£	
Ballina and Killala	8	44,000	Midland Great Western of Ireland.
Baltimore and Skibbereen	7¾	56,700	Cork, Bandon, and South Coast.
Bantry Bay Extension	1¾	15,000	Cork, Bandon, and South Coast.
Donegal and Killybegs	19	115,600	Donegal.
Downpatrick, Killough, and Ardglass	8	30,000	Belfast and County Down.
Galway and Clifden	48	264,600	Midland Great Western of Ireland.
Headford and Kenmare	19¾	50,000	Great Southern and Western of Ireland.
Killorglin and Valentia	26¾	85,000	Great Southern and Western of Ireland.
Stranorlar and Glenties	24½	116,000	Donegal.
Westport and Mallaranny	18	131,400	Midland Great Western of Ireland.
Total	—	908,300	

Note.—The above particulars were extracted from the Sixtieth Annual Report of the Commissioners of Public Works, Ireland.

RAILWAY RETURNS.—1892.

No. 2.—TRAFFIC, &c.

RETURN showing the NUMBER of PASSENGERS and QUANTITY of GOODS conveyed, and the RECEIPTS therefrom, upon the RAILWAYS in ENGLAND and WALES, SCOTLAND, and IRELAND, during the Year 1892.

No. 2.—Traffic, &c., ENGLAND

NAME OF COMPANY.	LENGTH OF LINE IN MILES open on 31st December 1892.			PASSENGER TRAFFIC. NUMBER OF PASSENGERS CONVEYED (exclusive of Season and Periodical Tickets).					GOODS TRAFFIC.		NUMBER OF MILES TRAVELLED BY TRAINS.		
	Double or more.	Single.	TOTAL.	1st Class.	2d Class.	3d Class (including Parliamentary).	TOTAL.	Holders of Season or Periodical Tickets.	Minerals.	General Merchandise.	Passenger Trains.	Goods and Mineral Trains.	TOTAL.
									Tons.	*Tons.*			
Abbotsbury	*Worked by the Great Western.*												
Aberdare	*Leased to the Taff Vale.*												
Abingdon	*Leased to the Great Western.*												
Alexandra (Newport and South Wales) Docks and Railway.	3	-	3	-	-	-	-	-	2,637,431	120,400	-	40,389	40,389
Bala and Festiniog	*Worked by the Great Western.*												
Banbury and Cheltenham Direct	*Worked by the Great Western.*												
Barnoldswick	*Worked by the Midland.*												
Barry	27	2	29	7,855	75,232	1,118,654	1,201,741	125*	4,299,636	84,669	61,599	575,355†	636,954†
Birkenhead	*Vested jointly in the Great Western and London and North-Western.*												
Bishop's Castle	-	10	10	561	3,936	29,006	33,503	-	8,684	4,761	Mixed		24,148
Brading Harbour Improvement and Railway	*Worked by the Isle of Wight.*												
Brecon and Merthyr Tydfil Junction	14	45	59	5,639	12,492	605,527	623,658	111	1,332,219	135,237	169,292	189,019	358,311
Bridgwater	*See under Somerset and Dorset.*												
Bridport	*Leased to the Great Western.*												
Brighton and Dyke	*Worked by the London, Brighton, and South Coast.*												
Buckfastleigh, Totnes, and South Devon	*Worked by the Great Western.*												
Buckley	*Worked by the Wrexham, Mold, and Connah's Quay.*												
Burry Port and Gwendreath Valley	-	19	19	-	-	-	-	-	163,929	-	-	11,279	11,279
Cambrian (Including the Mid Wales and the Llanybodwell Branch of the Shropshire.)	9	223	232	25,420	67,240	1,717,743	1,810,403	247	340,676	165,085	727,915	477,123	1,205,038
Cannock Chase and Wolverhampton	-	6	6	-	-	-	-	-	474,134	-	-	-	-
Charnwood Forest	*Worked by the London and North-Western.*												
Cheshire Lines Committee (Including Southport and Cheshire Lines Extension.)	119	18	137	589,827	1,488	8,625,344	9,216,659	9,409*	1,101,411	2,554,560	2,424,901	1,617,952	4,042,853
City and South London	3	-	3	-	-	6,030,764‡	6,030,764	289	-	-	403,361	-	403,361
Cleator and Workington Junction	13	16	29	1,248	5,080	90,885	97,213	37	876,319	25,382	29,518	103,714	133,232
Cockermouth, Keswick, and Penrith	-	32	32	8,428	11,257	311,734	331,419	3,859	208,317	109,162	115,540	116,657	232,197
Colchester, Stour Valley, Sudbury, and Halstead	*Leased to the Great Eastern.*												
Colne Valley and Halstead	-	19	19	1,990	3,699	167,447	173,136	45	37,024	33,919	Mixed.		72,444
Cornwall Minerals	*Worked by the Great Western.*												
Corris	-	11	11	2,203	-	56,619	58,822	1,521	16,369	2,384	13,075	10,914	23,989
Corwen and Bala	*Leased to the Great Western.*												
Cowbridge and Aberthaw	*Worked by the Taff Vale.*												
Cranbrook and Paddock Wood (Light)	*Worked by the South-Eastern.*												
Devon and Somerset	*Worked by the Great Western.*												
Didcot, Newbury, and Southampton	*Worked by the Great Western and London and South-Western.*												
Dover and Deal Committee	9	-	9	7,546	16,644	276,774	300,964	45	13,080		84,743	5,848	90,591
Dowlais (Including the "Dowlais Extension.")	2	-	2	No public traffic.									

* Equivalent number of annual tickets.
‡ Only one class of ticket issued. § Including receipts from minerals.

AND WALES, in 1892.

RECEIPTS (GROSS) FROM PASSENGER TRAFFIC.								RECEIPTS (GROSS) FROM GOODS TRAFFIC.						NAME OF COMPANY.
RECEIPTS FROM PASSENGERS.														
1st Class.	2d Class.	3d Class (including Parliamentary).	Holders of Season or Periodical Tickets.	Total from Passengers.	Excess Luggage, Parcels, Carriages, Horses, Dogs, &c.	Mails.	Total Receipts from Passenger Traffic.	Merchandise.	Live Stock.	Minerals.	Total Receipts from Goods Traffic.	Miscellaneous, Rents, Tolls, Navigation, Steamboats, &c.	Total Receipts from all Sources of Traffic.	
£	£	£	£	£	£	£	£	£	£	£	£	£	£	
														Abbotsbury.
														Aberdare.
														Abingdon.
- -	- -	- -	- -	- -	- -	- -	- -	1,956	- -	14,507	16,463	124,436	140,899	Alexandra (Newport and South Wales) Docks and Railway.
														Bala and Festiniog.
														Banbury and Cheltenham Direct.
														Barnoldswick.
220	1,439	13,761	623	16,043	726	110	16,879	6,379	- -	125,216	131,595	161,835	310,309	Barry.
														Birkenhead.
46	236	1,075	- -	1,357	255	12	1,624	1,181	140	876	2,197	113	3,934	Bishop's Castle.
														Brading Harbour Improvement and Railway.
509	707	17,884	182	19,282	1,682	- -	20,964	14,523	1,099	33,206	48,828	5,227	75,019	Brecon and Merthyr Tydfil Junction.
														Bridgwater.
														Bridport.
														Brighton and Dyke.
														Buckfastleigh, Totnes, and South Devon.
														Buckley.
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	6,443	6,443	3,734	10,177	Burry Port and Gwendreath Valley.
4,464	5,547	92,555	1,241	103,807	16,220	6,600	126,627	65,343	10,517	34,824	110,684	6,707	244,018	Cambrian.
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	2,973	2,973	1,020	3,993	Cannock Chase and Wolverhampton.
														Charnwood Forest.
27,915	24	240,217	37,806	305,962	43,670	913	350,545	397,606	10,909	45,524	454,039	20,786	825,370	Cheshire Lines Committee.
- -	- -	41,719‡	1,215	42,934	24	- -	42,958	- -	- -	- -	- -	1,350	44,308	City and South London.
40	94	1,349	120	1,603	70	- -	1,673	5,252	6	29,829	35,087	450	37,210	Cleator and Workington Junction.
1,083	912	12,756	768	15,519	1,553	230	17,302	11,276	504	17,946	29,726	589	47,617	Cockermouth, Keswick, and Penrith.
														Colchester, Stour Valley, Sudbury and Halstead.
194	203	3,261	60	3,718	610	50	4,378	4,881	301	2,956	8,138	943	13,459	Colne Valley and Halstead.
														Cornwall Minerals.
78	- -	880	76	1,034	80	50	1,164	379	- -	1,893	2,272	172	3,608	Corris.
														Corwen and Bala.
														Cowbridge and Aberthaw.
														Cranbrook and Paddock Wood (Light).
														Devon and Somerset.
														Didcot, Newbury, and Southampton.
323	523	5,852	124	6,822	349	- -	7,171	735§	39	- -	774	592	8,537	Dover and Deal Committee.
														Dowlais.

† The numbers of miles travelled by Goods and Mineral trains were incorrectly returned for previous years; for the year 1890 they should have been 411,940 and not 878,258, and the total number of miles travelled by trains should have been 569,958 and not 936,276; for 1891 they should have been 510,430 and not 1,072,906, and the total number of miles travelled by trains should have been 576,121 and not 1,138,597.

NAME OF COMPANY.	LENGTH OF LINE IN MILES open on 31st December 1892.			PASSENGER TRAFFIC. NUMBER OF PASSENGERS CONVEYED (exclusive of Season and Periodical Tickets).					GOODS TRAFFIC.		NUMBER OF MILES TRAVELLED BY TRAINS.		
	Double or more.	Single.	Total.	1st Class.	2d Class.	3d Class (including Parliamentary).	Total.	Holders of Season or Periodical Tickets.	Minerals.	General Merchandise.	Passenger Trains.	Goods and Mineral Trains.	Total.
									Tons.	*Tons.*			
Downham and Stoke Ferry	*Leased to the Great Eastern.*												
Easingwold	- -	2	2	812	- -	41,896	42,708	28	6,775	5,871	Mixed.		13,324
East and West Junction	*Worked by the "East and West Junction" and "Stratford-upon-Avon, Towcester, and Midland Junction"*												
East and West Junction and Stratford-upon-Avon, Towcester, and Midland Junction Joint Committee (Including the "Evesham, Redditch, and Stratford-upon-Avon Junction.")	- -	52	52	4,262	3,884	157,025	165,171	28	26,346	114,453	124,113	130,075	254,188
East and West Yorkshire Union	- -	3	3	- -	- -	- -	- -	- -	296,658	4,221	- -	6,976	6,976
East Cornwall Mineral (Calstock to Callington)*	- -	7	7	- -	- -	- -	- -	- -	26,937	5,525	- -	11,804	11,804
Eastern and Midlands: Lynn, Yarmouth, and Norwich Section	*See* note, page iii.												
East Lincolnshire	*Leased to the Great Northern.*												
East London (Joint Committee)	6	1	7	57,977	520,876	6,246,187	6,825,040	218	17,503	56,861	301,693	11,923	313,616
Ely and Newmarket	*Leased to the Great Eastern.*												
Ely and St. Ives	*Worked by the Great Eastern.*												
Ely Valley	*Worked by the Great Western.*												
Evesham, Redditch, and Stratford-upon-Avon Junction.	*Worked by the East and West Junction and Stratford-upon-Avon, Towcester, and Midland Junction Joint Committee.*												
Exmouth Docks and Railway†	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Festiniog	2	12	14	3,286	3,988	130,452	137,726	248	90,206	13,326	43,753	50,703	99,456
Forcett	- -	5	5	- -	- -	- -	- -	- -	116,513	2,579	- -	4,700	4,700
Forest of Dean Central	*Worked by the Great Western.*												
Freshwater, Yarmouth, and Newport	*Worked by the Isle of Wight Central.*												
Furness (Including half the "Whitehaven, Cleator, and Egremont Joint Line.")	85	49	134	40,625	81,644	1,940,939	2,063,208	658	3,475,569	602,510	648,765	668,004	1,316,769
Garstang and Knot End	- -	7	7	589	- -	40,178	40,767	- -	15,049	14,940	Mixed.		18,736
Glyn Valley Tramway	- -	9	9	- -	- -	15,623	15,623	2	47,990	1,032	Mixed.		24,988
Golden Valley	- -	19	19	1,243	- -	39,766	41,009	- -	1,949	2,358	23,698	11,356	35,054
Gorsedda Junction and Portmadoc	- -	11	11	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Great Eastern (Including the "Colchester, Stour Valley, Sudbury, and Halstead," "Downham and Stoke Ferry," "Ely and Newmarket," "Ely and St. Ives," "London and Blackwall," "Mellis and Eye," "Northern and Eastern," "Ramsey and Somersham Junction," "Thetford and Watton," "Watton and Swaffham," and the "Wivenhoe and Brightlingsea," half the "Great Northern and Great Eastern Joint Line," and part of the "Tottenham and Hampstead Junction.")	600	503	1,103	1,696,665	5,843,352	77,676,567	85,216,584	29,495	3,799,625	5,187,639	11,053,308	7,042,798	18,096,106
Great Marlow	- -	3	3	7,576	13,666	127,174	148,416	50	11,387	10,019	28,978	3,741	32,719
Great Northern (Including the "East Lincolnshire," "Holme and Ramsey," "Horncastle," "Louth and East Coast," "Muswell Hill and Palace Railway," "Nottingham and Grantham," "Nottingham Suburban," "Royston and Hitchin," "Stamford and Essendine," "Sutton and Willoughby," "Wainfleet and Firsby," and "Skegness Extension," and part of the "Great Northern and Great Eastern," "Halifax and Ovenden," and "West Riding and Grimsby" joint lines.)	626	202	828	838,737	1,246,833	30,752,912	32,838,482	119,501‡	6,383,424	5,865,477	10,141,248	9,474,701	19,615,949
Great North of England, Clarence, and Hartlepool Junction.	*Leased to the North-Eastern.*												
Great Western (Including the "Abbotsbury," "Abingdon," "Alcester Joint Line," "Bala and Festiniog," "Banbury and Cheltenham Direct," "Bridport," "Buckfastleigh, Totnes, and South Devon," "Calne," to 30th June, ‖ "Cornwall Minerals," "Corwen and Bala," "Devon and Somerset," "Didcot, Newbury, and Southampton, except Shawford Junction line," "Ely Valley," "Forest of Dean Central," "Helston," "Kington and Eardisley," "Leominster and Kington," "Llangollen and Corwen," "Marlborough," "Milford," "Minehead," "Much Wenlock and Severn Junction," "Nantwich and Market Drayton," "Newent, to 30th June,‖" "Oldbury," "Princetown," "Ross and Ledbury, to 30th June,‖" "Ross and Monmouth," "Staines and West Drayton," "Teign Valley," "Tiverton and North Devon," "Vale of Llangollen," "Wellington and Severn Junction, to 30th June,‖" "Wenlock," and "Wenlock Extensions," "West Cornwall Railway," "West Somerset," and "Wye Valley," and, jointly with other Companies, the "Birkenhead," "Clifton Extension," "Halesowen," "Hammersmith and City," "Ludlow and Clee Hill," "Shrewsbury and Hereford," "Shrewsbury and Wellington," "Shrewsbury and Welshpool," "Tenbury," "Vale of Towy," "Victoria Station and Pimlico," "West London," "Weymouth and Portland," and "Wrexham and Minera Extension.")	1,170	1,311	2,481	1,508,302	5,118,246	55,948,615	62,575,163	36,611	20,773,460	6,003,820	18,583,587	18,265,824	36,848,911

* The line was worked by the Plymouth, Devonport, and South-Western Junction Railway Company.
† The Railway is merely a branch line from the Docks to the London and South-Western Railway.

RECEIPTS (GROSS) FROM PASSENGER TRAFFIC.								RECEIPTS (GROSS) FROM GOODS TRAFFIC.				MISCELLANEOUS, RENTS, TOLLS, NAVIGATION, STEAMBOATS, &c.	TOTAL RECEIPTS FROM ALL SOURCES OF TRAFFIC.	NAME OF COMPANY.
RECEIPTS FROM PASSENGERS.					EXCESS LUGGAGE, PARCELS, CARRIAGES, HORSES, DOGS, &c.	MAILS.	TOTAL RECEIPTS FROM PASSENGER TRAFFIC.	MERCHANDISE.	LIVE STOCK.	MINERALS.	TOTAL RECEIPTS FROM GOODS TRAFFIC.			
1st CLASS.	2d CLASS.	3d CLASS (including Parliamentary).	HOLDERS OF SEASON OR PERIODICAL TICKETS.	TOTAL FROM PASSENGERS.										
£	£	£	£	£	£	£	£	£	£	£	£	£	£	*Dowlais and Stoke Ferry.*
20	- -	516	15	551	85	25	661	387	23	217	627	23	1,311	Easingwold.
Joint Committee.														*East and West Junction.*
663	351	4,882	52	5,948	1,006	26	6,980	17,469	703	1,735	19,907	127	27,014	East and West Junction and Stratford-upon-Avon, Towcester, and Midland Junction Joint Committee.
- -	- -	- -	- -	- -	- -	- -	- -	649	- -	6,936	7,585	1	7,586	East and West Yorkshire Union.
- -	- -	- -	- -	- -	- -	- -	- -	550	- -	2,088	2,638	217	2,855	East Cornwall Mineral (Calstock to Callington).*
														Eastern and Midlands: Lynn, Yarmouth, and Norwich Section.
														East Lincolnshire.
829	4,821	38,142	700	44,492	731	- -	45,223	2,926	329	583	3,838	1,345	50,406	East London (Joint Committee).
														Ely and Newmarket.
														Ely and St. Ives.
														Ely Valley.
														Evesham, Redditch, and Stratford-upon-Avon Junction.
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	Exmouth Docks and Railway.†
339	313	4,009	1,352	6,013	- -	30	6,043	1,558	- -	9,817	11,375	351	17,769	Festiniog.
- -	- -	- -	- -	- -	- -	- -	- -	143	- -	3,104	3,247	28	3,275	Forcett.
														Forest of Dean Central.
														Freshwater, Yarmouth, and Newport.
4,634	4,519	70,611	3,765	83,529	12,598	3,246	99,373	87,786	3,654	224,663	316,103	39,812	455,288	Furness.
24	- -	831	- -	855	153	10	1,018	1,672	- -	516	2,188	277	3,483	Garstang and Knot End.
- -	- -	498	10	508	- -	- -	508	362	- -	3,397	3,759	41	4,308	Glyn Valley Tramway.
50	- -	1,092	- -	1,142	107	- -	1,249	524	- -	260	784	- -	2,033	Golden Valley.
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	Gorsedda Junction and Portmadoc.
131,348	170,324	1,470,875	221,974	1,994,521	200,649	30,205	2,225,375	1,194,615	86,047	532,301	1,812,963	348,567	4,386,905	Great Eastern.
236	268	1,544	91	2,139	185	44	2,368	998	37	578	1,613	146	4,127	Great Marlow.
171,837	39,802	1,096,083	142,260§	1,443,982	253,406	32,254	1,729,642	1,467,921	54,172	881,527	2,403,620	66,471	4,199,733	Great Northern.
														Great North of England, Clarence and Hartlepool Junction.
265,961	330,609	2,723,747	116,533	3,436,850	597,006	124,999	4,158,855	2,306,547	148,917	2,203,995	4,659,459	212,398	9,030,712	Great Western.

‡ Including 88,539 workmen's weekly tickets.
§ Including amount received for workmen's weekly tickets, estimated at 5,350*l.*
Amalgamated with the Great Western as from 1st July 1892.

NAME OF COMPANY.	LENGTH OF LINE IN MILES open on 31st December 1892.			PASSENGER TRAFFIC. NUMBER OF PASSENGERS CONVEYED (exclusive of Season and Periodical Tickets).					GOODS TRAFFIC.		NUMBER OF MILES TRAVELLED BY TRAINS.		
	Double or more.	Single.	Total.	1st Class.	2d Class.	3d Class (including Parliamentary).	Total.	Holders of Season or Periodical Tickets.	Minerals.	General Merchandise.	Passenger Trains.	Goods and Mineral Trains.	Total.
Gwendraeth Valleys	- -	3	3	- -	- -	- -	- -	- -	*Tons.* 61,868	*Tons.* 2,318	- -	4,720	4,720
Halesowen	*Worked by the Great Western and Midland Companies.*												
Halifax and Ovenden	*Included in the returns of the "Great Northern" and "Lancashire and Yorkshire."*												
Halifax High Level	*See* note, page iii.												
Hammersmith and City Junction	*Worked jointly by the Great Western and Metropolitan.*												
Harborne	*Worked by the London and North-Western.*												
Harrow and Stanmore	*Worked by the London and North-Western.*												
Hayling Railways	*Leased to the London, Brighton, and South Coast.*												
Helston	*Worked by the Great Western.*												
Horncastle	*Worked by the Great Northern.*												
Hounslow and Metropolitan	*Worked by the Metropolitan District.*												
Hull, Barnsley, and West Riding Junction Railway and Dock.	65	1	66	4,215	- -	353,319	357,534	181	800,311	447,317	356,220	855,454	1,211,674
Isle of Wight (Including "Brading Harbour.")	1	13	14	54,667	361,532	337,161	753,360	113*	62,009	28,079	115,339	14,163	129,502
Isle of Wight Central (Including the "Freshwater, Yarmouth, and Newport.")	- -	34	34	36,970	233,708	413,495	684,173	3,032	77,534	28,952	185,143	28,862	214,005
Kettering, Thrapstone, and Huntingdon	*Worked by the Midland.*												
King's Lynn Docks and Railway†	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Kington and Eardisley	*Worked by the Great Western.*												
Lancashire and Yorkshire (Including part of the "Halifax and Ovenden," "North Union," "Preston and Longridge," and "Preston and Wyre" Joint Lines.)	501	22	523	1,039,310	1,760,963	44,427,508	47,227,781	27,773*	12,640,116	5,660,001	9,838,398	6,370,637	16,209,035
Leominster and Kington	*Worked by the Great Western.*												
Liskeard and Caradon (Including the "Liskeard and Looe Union Railway and Canal.")	- -	22	22	217	1,179	21,635	23,031	1	20,625	1,953	9,556	6,378	15,934
Liskeard and Looe Union Railway and Canal	*Worked by the Liskeard and Caradon.*												
Liverpool, Southport, and Preston Junction	*Worked by the West Lancashire.*												
Llanelly and Mynydd Mawr, for the year ended 31st October 1892.	- -	12	12	- -	- -	- -	- -	- -	80,232	7,353	- -	11,468	11,468
Llangollen and Corwen	*Leased to the Great Western.*												
London and Blackwall	*Leased to the Great Eastern.*												
London and Greenwich	*Leased to the South-Eastern.*												
London and North-Western (Including the "Charnwood Forest," "Cleator and Furness" Joint Line, "Harborne," "Harrow and Stanmore," "Mold and Denbigh Junction," and "Shropshire Union," and half of the "Ashby and Nuneaton," "Birkenhead and Branches," "Ludlow and Clee Hill," "Shrewsbury and Hereford," "Shrewsbury and Wellington," "Shrewsbury and Welshpool," and "Tenbury," and part of the "North Union," "Preston and Wyre," "West London," "West London Extension," and "Whitehaven, Cleator, and Egremont.")	1,500	388	1,888	1,994,774	3,317,228	59,196,690	64,508,692	270,627‡	29,034,567	8,463,668	22,322,238	20,914,461	43,236,699
London and South-Western (Including the "North Cornwall," "Plymouth, Devonport, and South-Western Junction," "Salisbury Railway and Market House," "Sidmouth," "Shawford Junction Line" (part of the Didcot, Newbury, and Southampton Railway), "Stonehouse Pool Improvement and Railway," and half of the "Weymouth and Portland," and part of the "West London Extension.")	623	227	850	2,138,646	3,888,931	38,662,832	44,690,409	211,743¶	2,736,806	1,778,944	9,711,911	3,782,221	13,494,132
London, Brighton, and South Coast (Including the "Brighton and Dyke," "Hayling Railways," and part of the "Croydon and Oxted," "Victoria Station and Pimlico," "West London Extension," and "Woodside and South Croydon.")	302	137	439	1,754,799	3,231,052	41,305,895	46,291,746	22,755	2,047,459	1,072,394	7,693,789	1,627,017	9,320,806
London, Chatham, and Dover (Including the "Mid Kent (Bromley to St. Mary Cray)," "Shortlands and Nunhead," and part of the "Victoria Station and Pimlico.")	173	12	185	1,655,786	2,808,363	25,565,510	30,029,659	14,672††	2,201,092	535,512	3,796,249	647,008	4,443,257
Londonderry (Seaham to Sunderland) (Private Property.)	6	1	7	7,501	8,384	394,194	410,079	58*	658,225	27,625	39,684	139,874	179,558
London, Tilbury, and Southend	71	4	75	171,826	418,814	7,460,899	8,051,539	2,070	217,231	261,372	844,708	194,810	1,039,518
Longton, Adderley Green, and Bucknall	*Worked by the North Staffordshire.*												
Louth and East Coast	*Leased to the Great Northern.*												

* Equivalent number of annual tickets. ‡ Including 204,337 workmen's weekly tickets. § Including 17,437*l.* received for workmen's weekly tickets.
¶ Including 211,743 workmen's weekly tickets. ** Including 22,469*l.* received for workmen's weekly tickets.
†† Equivalent number of annual tickets. The number of workmen's weekly tickets issued was 7,974.

RECEIPTS (GROSS) FROM PASSENGER TRAFFIC.								RECEIPTS (GROSS) FROM GOODS TRAFFIC.				MISCELLANEOUS, RENTS, TOLLS, NAVIGATION, STEAMBOATS, &c.	TOTAL RECEIPTS FROM ALL SOURCES OF TRAFFIC.	NAME OF COMPANY.
RECEIPTS FROM PASSENGERS.														
1st Class.	2d Class.	3d Class (including Parliamentary).	Holders of Season or Periodical Tickets.	TOTAL from Passengers.	Excess Luggage, Parcels, Carriages, Horses, Dogs, &c.	Mails.	TOTAL Receipts from Passenger Traffic.	Merchandise.	Live Stock.	Minerals.	TOTAL Receipts from Goods Traffic.			
£	£	£	£	£	£	£	£	£	£	£	£	£	£	
- -	- -	- -	- -	- -	- -	- -	- -	57	- -	1,294	1,351	48	1,399	Gwendraeth Valleys.
														Halesowen.
														Halifax and Ovenden.
														Halifax High Level.
														Hammersmith and City Junction.
														Harborne.
														Harrow and Stanmore.
														Hayling Railways.
														Helston.
														Horncastle.
														Hounslow and Metropolitan.
373	- -	12,090	502	12,965	11,669	- -	24,634	112,297	579	83,011	195,887	84,622	305,143	Hull, Barnsley, and West Riding Junction Railway and Dock.
3,269	12,418	9,681	594	25,962	2,212	445	28,619	3,237	- -	2,768	6,005	4,920	39,544	Isle of Wight.
2,263	9,639	10,332	1,168	23,402	1,667	137	25,206	2,954	- -	4,371	7,325	2,890	35,421	Isle of Wight Central.
														Kettering, Thrapstone, and Huntingdon.
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	26,758	26,758	King's Lynn Docks and Railway.†
														Kington and Eardisley.
68,913	63,073	1,287,540	212,765	1,632,291	175,692	11,864	1,819,847	1,611,913	39,360	891,649	2,542,922	101,207	4,463,976	Lancashire and Yorkshire.
														Leominster and Kington.
12	39	473	5	529	- -	- -	529	452	- -	3,172	3,624	174	4,327	Liskeard and Caradon.
														Liskeard and Looe Union Railway and Canal.
														Liverpool, Southport, and Preston Junction.
- -	- -	- -	- -	- -	- -	- -	- -	858	- -	4,016	4,874	- -	4,874	Llanelly and Mynydd Mawr.
														Llangollen and Corwen.
														London and Blackwall.
														London and Greenwich.
508,856	306,863	2,791,858	234,735 §	3,842,312	776,472	188,473	4,807,257 ‖	4,055,588	207,632	2,463,453	6,726,673 ‖	203,716 ‖	11,737,646	London and North-Western.
252,806	218,812	1,369,307	198,006 **	2,038,931	257,501	30,144	2,326,576	739,699	41,076	284,394	1,065,169	227,347	3,619,092	London and South-Western.
214,082	177,970	1,078,226	224,618	1,694,876	147,602	12,260	1,854,738	390,929	12,412	241,191	644,532	171,714	2,670,984	London, Brighton, and South Coast.
159,907	137,212	506,399	100,567 ‡‡	904,085	90,912	1,450	996,447	166,117	5,502	121,014	292,633	180,954	1,470,034	London, Chatham, and Dover.
172	128	4,336	184	4,820	385	85	5,290	1,873	28	14,086	15,987	9,485	30,762	Londonderry (Seaham to Sunderland).
9,982	15,585	106,519	15,857	147,943	8,098	266	156,307	56,418	3,267	12,713	72,398	34,172	262,877	London, Tilbury, and Southend.
														Longton, Adderley Green, and Bucknall.
														Louth and East Coast.

† The short tramway belonging to the Company is used only for the transit of goods between the Great Eastern Railway and the Docks.
‖ The receipts from the steamboat traffic are included with those from the railroad traffic, and not with the miscellaneous receipts. The Company state that no separate accounts of steamboat receipts are kept, and also that they cannot comply with the requirements of the Regulation of Railways Act of 1871.
‡‡ Including 399*l.* received for workmen's weekly tickets.

NAME OF COMPANY.	LENGTH OF LINE IN MILES open on 31st December 1892.			PASSENGER TRAFFIC. NUMBER OF PASSENGERS CONVEYED (exclusive of Season and Periodical Tickets).					GOODS TRAFFIC.		NUMBER OF MILES TRAVELLED BY TRAINS.		
	Double or more.	Single.	Total.	1st Class.	2d Class.	3d Class (including Parliamentary).	Total.	Holders of Season or Periodical Tickets.	Minerals.	General Merchandise.	Passenger Trains.	Goods and Mineral Trains.	Total.
									Tons.	*Tons.*			
Ludlow and Clee Hill	*Worked by the London and North-Western and Great Western jointly.*												
Lydd	*Worked by the South-Eastern.*												
Macclesfield Committee	11	- -	11	3,176	2,840	441,055	447,071	1,006	231,222	107,411	64,155	59,063	123,218
Maenclochog	*See* note, page iii.												
Manchester and Milford	- -	41	41	1,195	4,293	173,377	178,865	9	34,929	25,175	Mixed.		121,686
Manchester, Sheffield, and Lincolnshire (Including the "Wigan Junction" and part of the "West Riding and Grimsby.")	325	19	344	280,240	26,069	12,948,229	13,254,538	86,703	8,197,464	5,121,902	3,110,568	5,660,556	8,771,124
Manchester, South Junction, and Altrincham	9	- -	9	207,978	265,743	3,395,652	3,869,373	4,792	1,392,825	690,777	237,771	7,318	245,089
Marlborough	*Worked by the Great Western.*												
Maryport and Carlisle	28	13	41	11,242	16,298	547,616	575,156	4,189	621,943	188,940	194,783	230,897	425,680
Mawddwy	- -	7	7	152	361	14,786	15,299	2	3,514	1,335	Mixed.		12,947
Mellis and Eye	*Worked by the Great Eastern.*												
Merrybent and Darlington	- -	6	6	- -	- -	- -	- -	- -	8,494	5,123	- -	4,356	4,356
Mersey	4	- -	4	512,243	2,259,771	5,720,718	8,492,732	5,294	- -	- -	297,922	- -	297,922
Methley Joint Railway	6	- -	6	3,248	- -	382,285	385,533	59	485,604	186,812	- -	- -	- -
Metropolitan (Including half the "Hammersmith and City.")	50	17	67	2,865,885	8,631,067	62,750,564	74,247,516	31,026	1,469,699	634,335	2,027,184	43,264	2,070,448
Metropolitan District (Including the "Richmond," "Ealing," and "Fulham Extensions," and "Hounslow and Metropolitan.")	18	1	19	3,036,375	6,647,334	29,811,313	39,495,022	29,236	218,240	6,809	1,354,578	13,286	1,367,864
Metropolitan and Metropolitan District City Lines and Extensions.	2	- -	2	21,734	128,268	1,373,176	1,523,178	13	- -	- -	220,358	- -	220,358
Mid Kent (Bromley to St. Mary Cray)	*Leased to the London, Chatham, and Dover.*												
Midland (Including the "Barnoldswick," "Kettering, Thrapstone, and Huntingdon," "Manchester, Buxton, Matlock, and Midland Junction," the "Furness and Midland" Joint Line, and half the "Asbby and Nuneaton," "Clifton Extension," the "Great Western and Midland" from Malvern Wells to Malvern Link, "Midland and North-Eastern Committee," "Otley and Ilkley," "Tottenham and Hampstead Junction," and part of the "Halesowen.")	1,041	342	1,383	1,272,266	- -	39,186,676	40,458,942	27,483	19,226,878	12,497,216	16,477,705	24,999,232	41,476,937
Midland and North-Eastern Committee (Swinton to Knottingley.)	*Included in the returns of the Midland and North-Eastern Companies.*												
Midland and South-Western Junction	- -	55	55	2,962	6,392	249,939	259,293	514	51,871	39,200	195,186	121,470	352,765§
Mid Wales	*Worked by the Cambrian.*												
Milford	*Worked by the Great Western.*												
Milford Haven Dock and Railway	*See* note, page iii.												
Minehead	*Worked by the Great Western.*												
Mold and Denbigh Junction	*Worked by the London and North-Western.*												
Much Wenlock and Severn Junction	*Worked by the Great Western.*												
Muswell Hill and Palace Railway	*Worked by the Great Northern.*												
Nantwich and Market Drayton	*Worked by the Great Western.*												
Neath and Brecon	- -	40	40	1,764	341	214,656	216,761	81	377,756	105,016	29,619	42,204	71,823
Northampton and Banbury Junction	- -	15	15	2,255	4,928	99,500	106,683	16	31,439	62,693	40,742	16,371	61,447‖
North and South Western Junction	4	1	5	3,744	29,488	446,748	479,980	35	28	- -	- -	- -	- -
North Cornwall	*Worked by the London and South-Western.*												
North-Eastern (Including the "Great North of England, Clarence, and Hartlepool Junction," "Scarborough and Whitby," "Scarborough, Bridlington, and West Riding Junction," half the "Midland and North-Eastern Committee," and part of the "Otley and Ilkley" Joint Line.)	1,077	535	1,612	841,911	580,833	39,520,301	40,943,045	14,385	27,558,882	8,837,641	11,812,120	14,098,342 ¶	25,910,462
Northern and Eastern	*Leased to the Great Eastern.*												
North London	12	- -	12	735,517	5,712,761	23,612,238	30,060,516	467,776**	1,041,299	1,507,398	1,842,513	281,413	2,123,926
North Staffordshire (Including the "Longton, Adderley Green, and Bucknall.")	158	36	194	132,140	346,926	6,705,976	7,185,042	3,253‡‡	3,333,758	1,200,161	1,129,629	1,006,822	2,136,451
North Wales (Narrow Gauge)	- -	12	12	473	515	38,550	39,538	220	16,112	842	Mixed.		30,747
Nottingham and Grantham Railway and Canal	*Leased to the Great Northern.*												
Nottingham Suburban	*Worked by the Great Northern.*												
Oldbury	*Worked by the Great Western.*												
Oldham, Ashton-under-Lyne, and Guide Bridge Junction.	6	- -	6	16,080	16,883	1,239,691	1,272,654	19,162	270,419	132,170	154,751	30,929	185,680

* The Company received in addition 79,322*l.* net from the rent of houses, &c.
† Including 8,663*l.* net from rents of property.
‖ Including 4,334 miles run by mixed trains.
¶ Including 6,304,489 miles run by mineral trains.
‡‡ Equivalent number of annual tickets. The number of workmen's weekly tickets issued was 91,861.

RECEIPTS (GROSS) FROM PASSENGER TRAFFIC.								RECEIPTS (GROSS) FROM GOODS TRAFFIC.				MISCELLANEOUS, RENTS, TOLLS, NAVIGATION, STEAMBOATS, &c.	TOTAL RECEIPTS FROM ALL SOURCES OF TRAFFIC.	NAME OF COMPANY.
RECEIPTS FROM PASSENGERS.					EXCESS LUGGAGE, PARCELS, CARRIAGES, HORSES, DOGS, &c.	MAILS.	TOTAL RECEIPTS FROM PASSENGER TRAFFIC.	MERCHANDISE.	LIVE STOCK.	MINERALS.	TOTAL RECEIPTS FROM GOODS TRAFFIC.			
1st Class.	2d Class.	3d Class (including Parliamentary).	Holders of Season or Periodical Tickets.	TOTAL from Passengers.										
£	£	£	£	£	£	£	£	£	£	£	£	£	£	*Ludlow and Clee Hill.*
														Lydd.
110	49	6,255	371	6,785	1,016	7	7,808	8,381	99	6,465	14,945	242	22,995	Macclesfield Committee.
														Macclesfield.
223	520	8,054	57	9,454	663	350	10,467	5,772	788	3,247	9,807	385	20,659	Manchester and Milford.
27,676	554	416,038	30,900	475,818	130,663	4,453	610,934	868,757	19,470	628,092	1,516,319	280,874	2,408,127	Manchester, Sheffield, and Lincolnshire.
5,697	5,390	45,405	28,180	84,672	5,385	200	90,257	14,508	689	12,916	28,113	3,450	121,820	Manchester, South Junction, and Altrincham.
														Marlborough.
1,370	1,257	23,781	1,858	28,266	3,707	1,052	33,025	20,207	2,592	43,153	65,952	1,941	100,918	Maryport and Carlisle.
11	16	328	7	362	39	50	451	173	2	257	432	76	959	Mawddwy.
														Mellis and Eye.
- -	-	- -	- -	- -	- -	- -	- -	149	- -	424	573	- -	573	Merrybent and Darlington.
7,349	19,658	40,333	7,967	75,307	690	105	76,102	- -	- -	- -	- -	2,090	78,192	Mersey.
41	- -	2,382	86	2,509	140	- -	2,649	3,027	21	7,817	10,865	48	13,562	Methley Joint Railway.
56,097	109,166	425,577	65,861	656,701	5,987	- -	662,688	22,354	438	22,349	45,141	39,613*	747,442*	Metropolitan.
55,332	81,280	240,943	43,150	420,705	1,332	- -	422,037	194	- -	3,085	3,279	22,658†	447,974†	Metropolitan District.
3,523	6,857	26,681	14	37,075	209	- -	37,284	- -	- -	- -	- -	657‡	37,941‡	Metropolitan and Metropolitan District City Lines and Extensions.
														Mid Kent (Bromley to St. Mary's Cray).
229,442	- -	1,337,665	158,463	2,225,570	506,935	56,997	2,789,502	3,347,429	97,180	2,875,735	6,320,344	149,001	9,258,847	Midland.
														Midland and North-Eastern Committee.
433	570	9,969	111	11,083	3,788	- -	14,871	7,817	787	3,931	12,535	482	27,888	Midland and South-Western Junction.
														Mid-Wales.
														Milford.
														Milford Haven Dock and Railway.
														Minehead.
														Mold and Denbigh Junction.
														Much Wenlock and Severn Junction.
														Muswell Hill and Palace Railway.
														Nantwich and Market Drayton.
332	87	7,499	346	8,264	648	150	9,062	10,334	202	16,766	27,302	21	36,385	Neath and Brecon.
136	210	2,679	15	3,040	379	20	3,439	3,622	441	1,253	5,316	160	8,915	Northampton and Banbury Junction.
28	170	1,645	13	1,856	15	- -	1,871	- -	- -	1	1	1,250	3,122	North and South Western Junction.
														North Cornwall.
134,140	42,068	1,514,956	117,977	1,809,141	298,782	57,753	2,165,676	2,137,287	101,074	2,091,261	4,329,622	188,314	6,683,612	North-Eastern.
														Northern and Eastern.
12,555	58,429	172,319	72,830 ††	316,133	5,520	- -	321,653	107,903	2,083	42,258	152,244	31,894	505,791	North London.
11,238	11,102	155,313	15,155 §§	192,808	33,245	3,000	229,053	226,058	3,986	232,400	462,444	84,748	776,245	North Staffordshire.
30	26	1,090	434	1,589	- -	- -	1,589	180	- -	1,663	1,843	65	3,497	North Wales (Narrow Gauge).
														Nottingham and Grantham Railway and Canal.
														Nottingham Suburban.
														Oldbury.
313	182	11,891	2,193	14,579	592	50	15,221	7,019	147	5,637	12,803	1,024	29,048	Oldham, Ashton-under-Lyne, and Guide Bridge Junction.

‡ The Committee also received 10,445*l.* net from rents.
** Including 403,231 workmen's weekly tickets, estimated by the Company to represent 4,857,938 journeys.
†† Including 20,100*l.* received for workmen's weekly tickets.
§ Including 36,109 miles run by mixed trains.
§§ The amount received from workmen's weekly tickets was 5,955*l.*

NAME OF COMPANY.	LENGTH OF LINE IN MILES open on 31st December 1892.			PASSENGER TRAFFIC.					GOODS TRAFFIC.		NUMBER OF MILES TRAVELLED BY TRAINS.		
				NUMBER OF PASSENGERS CONVEYED (exclusive of Season and Periodical Tickets).									
	Double or more.	Single.	Total.	1st Class.	2d Class.	3d Class (including Parliamentary).	Total.	Holders of Season or Periodical Tickets.	Minerals.	General Merchandise.	Passenger Trains.	Goods and Mineral Trains.	Total.
									Tons.	*Tons.*			
Pembroke and Tenby	- -	29	29	4,194	34,131	282,043	320,368	27	53,078	23,506	89,647	49,639	139,286
Penarth Extension	*Leased to the Taff Vale.*												
Penarth Harbour, Dock, and Railway	*Leased to the Taff Vale.*												
Plymouth and Dartmoor	- -	11	11	- -	- -	- -	- -	- -	50,878	- -	- -	- -	- -
Plymouth, Devonport, and South-Western Junction.	*Worked by the London and South-Western.*												
Pontypridd, Caerphilly, and Newport	7	- -	7	1,028	4,708	154,683	160,419	- -	421,545	4,792	12,530	19,270	31,800
Portmadoc, Croesor, and Beddgelert	- -	5	5	- -	- -	- -	- -	- -	6,250	2,652	- -	2,840	2,840
Princetown	*Worked by the Great Western.*												
Ramsey and Somersham Junction	*Worked by the Great Eastern.*												
Ravenglass and Eskdale	- -	7	7	361	- -	25,206	25,567	43	695	677	14,401	- -	19,448*
Redruth and Chasewater	- -	10	10	- -	- -	- -	- -	- -	26,958	4,452	- -	11,303	11,303
Rhondda and Swansea Bay	3	13	16	834	3,689	416,414	420,937	183†	277,438‡	112,901‡	59,044	39,143	98,187
Rhymney	38	8	46	10,555	40,089	1,333,899	1,384,543	228†	4,782,857	336,177	186,077	910,329	1,096,406
Ross and Monmouth	*Worked by the Great Western.*												
Rowrah and Kelton Fell Mineral	- -	3	3	- -	- -	- -	- -	- -	53,399	789	- -	4,542	4,542
Royston and Hitchin	*Leased to the Great Northern.*												
St. Austell and Pentewan Railway, Harbour, and Dock, for the year ended 29th September 1892.	- -	3	3	- -	- -	- -	- -	- -	41,033	- -	- -	6,914	6,914
Salisbury Railway and Market House	*Worked by the London and South-Western.*												
Saundersfoot Railway and Harbour	- -	4	4	- -	- -	- -	- -	- -	33,408	- -	- -	- -	- -
Scarborough and Whitby	*Worked by the North-Eastern.*												
Scarborough, Bridlington, and West Riding Junction.	*Worked by the North-Eastern.*												
Severn and Wye and Severn Bridge	4	33	37	1,313	- -	133,564	134,877	52	510,134	66,726	63,685	69,702	133,387
Sheffield and Midland Committee	25	4	29	87,668	7,888	3,666,980	3,762,536	23,451	1,898,918	1,602,168	419,617	370,521	790,138
Shortlands and Nunhead	*Worked by the London, Chatham, and Dover.*												
Shrewsbury and Hereford	*Leased to the Great Western and London and North-Western.*												
Shropshire Union Railways and Canal	*Leased to the London and North-Western.*												
Sidmouth	*Worked by the London and South-Western.*												
Snailbeach District	- -	3	3	- -	- -	- -	- -	- -	4,623	26	- -	3,702	3,702
Somerset and Dorset, for the year ended 31st October 1892. (Including the "Bridgwater." The lines are worked by a Joint Committee of the "Midland" and "London and South-Western Companies.")	30	71	101	16,687	21,448	1,049,842	1,087,977	226†	456,010	323,157	593,479	595,480	1,188,959
South-Eastern (Including the "Cranbrook and Paddock Wood (Light)" "London and Greenwich," and "Lydd," and part of the "Croydon and Oxted" and "Woodside and South Croydon" joint lines.)	350	51	401	985,500	2,527,106	26,835,841	30,348,447	12,554	1,246,767	1,019,955	6,107,483	1,703,988	7,811,471
Southport and Cheshire Lines Extension	*Worked by the Cheshire Lines Committee.*												
South Wales Mineral, for the year ended 30th September 1892.	- -	13	13	- -	- -	- -	- -	- -	255,292	7,630	- -	83,055	83,055
Southwold	- -	9	9	5,487	- -	78,513	84,000	7	6,613	3,268	Mixed.		30,869
Staines and West Drayton	*Worked by the Great Western.*												
Stamford and Essendine	*Worked by the Great Northern.*												
Stocksbridge	- -	2	2	- -	- -	- -	- -	- -	65,767	26,392	- -	8,064	8,064
Stonehouse Pool Improvement and Railway	*Worked by the London and South-Western.*												
Sutton and Willoughby	*Worked by the Great Northern.*												
Taff Vale (Including the "Aberdare," "Cowbridge and Aberthaw," "Penarth Extension," "Penarth Harbour, Dock, and Railway.")	71	49	120	67,956	296,297	4,947,692	5,311,945	17,491	12,298,248	682,710	446,154	1,577,606	2,023,760
Talyllyn, for the year ended 30th September 1892	- -	7	7	- -	208	23,933	24,141	- -	6,191	373	Mixed.		12,040
Teign Valley	*Worked by the Great Western.*												

* Including 5,047 miles run by mixed trains.

† Equivalent number of annual tickets.

‡ The quantity of minerals and merchandise carried in 1891 and the receipts therefrom were incorrectly returned last year. Instead of 329,896 tons of minerals and 87,730 tons of merchandise, it should have been 311,383 tons of minerals and 106,243 tons of merchandise, and the receipts should have been 9,387*l.* and 7,756*l.* respectively instead of 10,362*l.* and 6,779*l.*

RECEIPTS (GROSS) FROM PASSENGER TRAFFIC.								RECEIPTS (GROSS) FROM GOODS TRAFFIC.				MISCELLANEOUS, RENTS, TOLLS, NAVIGATION, STEAMBOATS, &c.	TOTAL RECEIPTS FROM ALL SOURCES OF TRAFFIC.	NAME OF COMPANY.
RECEIPTS FROM PASSENGERS.					EXCESS LUGGAGE, PARCELS, CARRIAGES, HORSES, DOGS, &c.	MAILS.	TOTAL RECEIPTS FROM PASSENGER TRAFFIC.	MERCHANDISE.	LIVE STOCK.	MINERALS.	TOTAL RECEIPTS FROM GOODS TRAFFIC.			
1st Class.	2d Class.	3d Class (including Parliamentary).	Holders of Season or Periodical Tickets.	TOTAL from Passengers.										
£ 534	£ 1,876	£ 11,034	£ 130	£ 13,574	£ 2,002	£ 550	£ 16,126	£ 5,725	£ 424	£ 4,677	£ 10,826	£ 587	£ 27,539	Pembroke and Tenby.
														Penarth Extension.
														Penarth Harbour, Dock, and Railway.
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	482	482	429	911	Plymouth and Dartmoor.
														Plymouth, Devonport, and South-Western Junction.
45	140	2,160	- -	2,345	68	- -	2,413	195	- -	802	997	16	3,426	Pontypridd, Caerphilly, and Newport.
- -	- -	- -	- -	- -	- -	- -	- -	91	- -	348	439	- -	439	Portmadoc, Croesor, and Beddgelert.
														Princetown.
														Ramsey and Somersham Junction.
18	- -	631	20	669	54	29	752	117	2	69	188	- -	940	Ravenglass and Eskdale.
- -	- -	- -	- -	- -	- -	- -	- -	433	- -	3,108	3,541	337	3,878	Redruth and Chasewater.
57	180	9,467	1,034	10,738	259	44	11,041	6,876‡	103	9,611‡	16,590	2,823	30,454	Rhondda and Swansea Bay.
589	1,544	23,846	1,246	27,225	2,876	348	30,449	22,494	123	152,227	174,844	1,977	207,270	Rhymney.
														Ross and Monmouth.
- -	- -	- -	- -	- -	- -	- -	- -	44	- -	1,803	1,847	- -	1,847	Rowrah and Kelton Fell Mineral.
														Royston and Hitchin.
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	2,533	2,533	- -	2,533	St. Austell and Pentewan Railway, Harbour, and Dock.
														Salisbury Railway and Market House.
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	566	566	203	769	Saundersfoot Railway and Harbour.
														Scarborough and Whitby.
														Scarborough, Bridlington, and West Riding Junction.
131	- -	4,615	48	4,794	563	80	5,437	5,105	40	28,144	33,289	3,229	41,955	Severn and Wye and Severn Bridge.
2,754	301	39,144	4,868	47,067	7,339	95	54,501	52,004	699	33,646	86,349	2,207	143,057	Sheffield and Midland Committee.
														Shortlands and Nunhead.
														Shrewsbury and Hereford.
														Shropshire Union Railways and Canal.
														Sidmouth.
- -	- -	- -	- -	- -	- -	- -	- -	10	- -	489	499	- -	499	Snailbeach District.
4,520	2,196	53,238	1,121	61,075	10,027	1,000	72,102	55,164	4,966	43,648	103,778	2,962	178,842	Somerset and Dorset.
190,783	188,982	821,646	155,502	1,356,913	156,112	24,763	1,537,788	353,523	15,320	185,292	554,135	246,321	2,338,244§	South-Eastern.
														Southport and Cheshire Lines Extension.
- -	- -	- -	- -	- -	- -	- -	- -	885	- -	10,203	11,088	165	11,253	South Wales Mineral.
235	- -	1,848	33	2,116	240	50	2,406	566	- -	433	999	155	3,560	Southwold.
														Staines and West Drayton.
														Stamford and Essendine.
- -	- -	- -	- -	- -	- -	- -	- -	1,344	- -	1,466	2,810	115	2,925	Stocksbridge.
														Stonehouse Pool Improvement and Railway.
														Sutton and Willoughby.
3,452	9,756	116,740	9,627	139,575	10,176	4,000	153,751	71,436	1,606	448,221	521,263	86,775	761,789	Taff Vale.
- -	11	450	- -	461	2	10	473	83	- -	568	651	13	1,137	Talyllyn.
														Teign Valley.

§ Exclusive of 15,715*l.* received from the London, Brighton, and South Coast Railway Company in respect of the greater use made by that Company of the lines between London and Redhill.

NAME OF COMPANY.	LENGTH OF LINE IN MILES open on 31st December 1892.			PASSENGER TRAFFIC. NUMBER OF PASSENGERS CONVEYED (exclusive of Season and Periodical Tickets).					GOODS TRAFFIC.		NUMBER OF MILES TRAVELLED BY TRAINS.		
	Double or more.	Single.	Total.	1st Class.	2d Class.	3d Class (including Parliamentary).	Total.	Holders of Season or Periodical Tickets.	Minerals.	General Merchandise.	Passenger Trains.	Goods and Mineral Trains.	Total.
Tenbury	*Worked by the Great Western and London and North-Western.*								Tons.	Tons.			
Thetford and Watton	*Worked by the Great Eastern.*												
Tiverton and North Devon	*Worked by the Great Western.*												
Tottenham and Hampstead Junction	*Worked by the Great Eastern and Midland.*												
Vale of Llangollen	*Worked by the Great Western.*												
Van	-	6	6	-	-	-	-	-	2,298	362	-	1,407	1,407
Victoria Station and Pimlico	*Line used by the Great Western, London and North-Western, London, Brighton, and South Coast, and London,*												
Wainfleet and Firsby	*Worked by the Great Northern.*												
Watton and Swaffham	*Worked by the Great Eastern.*												
Wenlock	*Worked by the Great Western.*												
West Cornwall Railway	*See* under Great Western.												
West Lancashire (Including "Liverpool, Southport, and Preston Junction.")	24	1	25	4,739	5,887	758,676	769,302	171*	43,686	49,615	204,535	69,003	273,538
West London	*Leased to the West London Extension.*												
West London Extension	*Line worked by the Great Western, London and North-Western, London and South-Western, and London, Brighton,*												
West Riding and Grimsby	*Included in the returns of the Great Northern and Manchester, Sheffield, and Lincolnshire.*												
West Somerset	*Leased to the Great Western.*												
West Somerset Mineral	-	12‡	12‡	46	184	9,627	9,857	-	1,623	1,714	7,582	1,632	9,214
Weymouth and Portland	*Worked by the Great Western and London and South-Western.*												
Wigan Junction	*Worked by the Manchester, Sheffield, and Lincolnshire.*												
Wirral	5	6	11	91,516	246,958	1,240,842	1,579,316	1,728	12,750	12,669	171,344	6,387	177,731
Wivenhoe and Brightlingsea	*Worked by the Great Eastern.*												
Woodside and South Croydon Joint Committee	*Included in the returns of the London, Brighton, and South Coast and South-Eastern.*												
Woodstock	-	3	3	718	1,680	35,773	38,171	5	4,197	2,329	Mixed.		8,029
Wrexham, Mold, and Connah's Quay (Including the "Buckley.")	15	13	28	6,250	1,118	638,276	645,644	-	976,335	70,847	43,042	116,286	159,328
Wye Valley	*Worked by the Great Western.*												
TOTAL ENGLAND AND WALES	9,253	4,989	14,242	24,906,934	56,332,213	680,791,819	762,630,966	1,511,972	185327982	75,148,521	147505521	125963761	273,614,738
									13,680				

* Equivalent number of annual tickets.
‡ Of this length 5 miles are open for goods and mineral traffic only.

TABLE No. 2A.

The following Companies have, in addition, given the Number of Miles of Single, Double, Treble, and Quadruple or more Lines of Rails belonging to or worked by them.

NAME OF COMPANY.	LENGTH OF LINE IN MILES OPEN ON 31ST DECEMBER 1892.				
	Single Lines.	Double Lines.	Three Lines.	Four Lines or more.	TOTAL.
ENGLAND AND WALES.					
BARRY	2	26	1	—	29
CHESHIRE LINES COMMITTEE	18	114	2	3	137
GREAT EASTERN	503	586	4	10	1,103
GREAT NORTHERN	202	540	41	45	828
GREAT WESTERN	1,311	1,140	—	30	2,481
HULL, BARNSLEY, AND WEST RIDING JUNCTION	1	64	—	1	66
LONDON AND NORTH-WESTERN	388	1,307	29	164	1,888
LONDON AND SOUTH-WESTERN	227	591	15	17	850
LONDON, BRIGHTON, AND SOUTH COAST	137	284	8	10	439
LONDON, CHATHAM, AND DOVER	12	165	1	7	185
MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE	19	309	3	13	341
MIDLAND	342	909	22	110	1,383
NORTH LONDON	—	7	—	5	12
NORTH STAFFORDSHIRE	36	155	1	2	194
ROYMNEY	8	36	2	—	46
SOUTH-EASTERN	51	342	4	4	401
TAFF VALE	49	45	18	13	120

RECEIPTS (GROSS) FROM PASSENGER TRAFFIC.								RECEIPTS (GROSS) FROM GOODS TRAFFIC.						NAME OF COMPANY.
RECEIPTS FROM PASSENGERS.														
1st Class.	2d Class.	3rd Class (including Parliamentary).	Holders of Season or Periodical Tickets.	Total from Passengers.	Excess Luggage, Parcels, Carriages, Horses, Dogs, &c.	Mails.	Total Receipts from Passenger Traffic.	Merchandise.	Live Stock.	Minerals.	Total Receipts from Goods Traffic.	Miscellaneous, Rents, Tolls, Navigation, Steamboats, &c.	Total Receipts from all Sources of Traffic.	
£	£	£	£	£	£	£	£	£	£	£	£	£	£	
														Tenbury.
														Thetford and Watton.
														Tiverton and North Devon.
														Tottenham and Hampstead Junction.
														Vale of Llangollen.
- -	- -	- -	- -	- -	- -	- -	- -	71	- -	127	198	- -	198	Van.
Chatham, and Dover.														*Victoria Station and Pimlico.*
														Wainfleet and Firsby.
														Watton and Swaffham.
														Wenlock.
														West Cornwall Railway.
306	228	11,819	807	13,160	1,781	50	14,991	8,185	167	4,167	12,519	800	28,310	West Lancashire.
														West London.
and South Coast.														*West London Extension.*
														West Riding and Grimsby.
														West Somerset.
1	5	136	- -	142	14	- -	156	186	- -	115	301	6,545	7,002	West Somerset Mineral.
														Weymouth and Portland.
														Wigan Junction.
2,114	4,088	15,627	3,818	25,647	592	150	26,389	702	- -	351	1,053	860	28,302	Wirral.
														Wivenhoe and Brightlingsea.
														Woodside and South Croydon Joint Committee.
15	26	355	14	410	65	- -	475	250	13	182	395	72	942	Woodstock.
193	46	7,932	- -	8,171	653	- -	8,824	9,341	169	32,716	42,226	675	51,725	Wrexham, Mold, and Connah's Quay.
														Wye Valley.
2,583,280	2,049,351	19,087,641	2,242,254	25,962,526	3,795,933	599,284	30,357,743	20,122,011	880,884	15,279,696	36,282,591	3,212,024	69,852,358	TOTAL ENGLAND AND WALES.

† The number of train miles was incorrectly returned for 1891. Instead of 360,258 miles it should have been 282,362 miles.
§ Including 415,448 miles run by mixed trains.

No. 2.—Traffic, &c.,

The Financial Year of the Scotch Railway Companies,

Name of Company.	Length of Line in Miles open on 31st January 1893.			Passenger Traffic. Number of Passengers conveyed (exclusive of Season and Periodical Tickets).				Holders of Season or Periodical Tickets.	Goods Traffic.		Number of Miles travelled by Trains.		
	Double or more.	Single.	Total.	1st Class.	2d Class.	3d Class (including Parliamentary).	Total.		Minerals.	General Merchandise.	Passenger Trains.	Goods and Mineral Trains.	Total.
									Tons.	Tons.			
Anstruther and St. Andrew's	*Worked by the North British.*												
Arbroath and Forfar	*Leased to the Caledonian.*												
Ayr and Maybole	*Leased to the Glasgow and South-Western.*												
Caledonian (Including the "Arbroath and Forfar," "Callander and Oban," "Cathcart District," "Dundee and Newtyle," "Greenock and Wemyss Bay," "Killin," "Lanarkshire and Ayrshire," "Solway Junction," part of the "Kilsyth and Bonnybridge," and half the "Glasgow and Kilmarnock" and "Glasgow and Paisley" joint lines.)	493	382	875	1,458,651	686,069	23,718,725	25,863,445	21,257*	14,691,096	3,712,104	7,250,810	6,983,024†	14,233,834
Callander and Oban	*Worked by the Caledonian.*												
Cathcart District	*Worked by the Caledonian.*												
City of Glasgow Union	6	1	7	366,854	-	5,749,910	6,116,764	8,706	1,404,049	702,003	-	-	-
Dundee and Newtyle	*Leased to the Caledonian.*												
Edinburgh and Bathgate	*Leased to the North British.*												
Eyemouth	*Worked by the North British.*												
Findhorn	Line closed since 30th January 1869.												
Forth and Clyde Junction	*Leased to the North British.*												
Forth Bridge	*Worked by the North British.*												
Glasgow and South-Western (Including the "Ayr and Maybole," "Kilmarnock and Troon," and half the "Glasgow and Kilmarnock" and "Glasgow and Paisley" joint lines.)	271	113	384	525,724	-	11,683,888	12,209,612	5,494*	4,708,012	1,265,732	3,092,961	2,750,893	5,843,854
Glasgow, Yoker, and Clydebank	*Worked by the North British.*												
Great North of Scotland (Including the Buckie Extension.)	33	283	316	121,175	-	2,653,322	2,774,497	2,295	366,325	433,167	1,180,755	692,112	1,872,867
Greenock and Wemyss Bay	*Worked by the Caledonian.*												
Highland, for the year ended 28th February 1893	10	417	427	100,775	24,064	1,529,450	1,654,289	3,293	174,154	310,679	Mixed.		2,089,063
Killin	*Worked by the Caledonian.*												
Kilmarnock and Troon	*Leased to the Glasgow and South-Western.*												
Kilsyth and Bonnybridge	*Worked by the Caledonian and North British.*												
Lanarkshire and Ayrshire	*Worked by the Caledonian.*												
Newport	*Leased to the North British.*												
North British (Including the "Anstruther and St. Andrew's," "Edinburgh and Bathgate," "Eyemouth," "Forth and Clyde Junction," "Forth Bridge," "Glasgow, Yoker, and Clydebank," "Newport," and part of the "Kilsyth and Bonnybridge.	484	613	1,097	1,596,708	15,076	28,476,364	30,088,148	31,179	13,074,160	3,844,402	7,848,237	7,729,409	15,577,646
Portpatrick and Wigtownshire Joint Committee	-	82	82	22,077	1,636	426,944	450,657	78	74,272	54,581	247,840	140,802	388,642
Solway Junction	*Leased to the Caledonian.*												
Total Scotland	1,297	1,891	3,188	4,191,964	726,845	74,238,603	79,157,41	72,302	34,492,068	10,322,668	19,620,603	18,296,240	40,005,906‡

* Equivalent number of annual tickets.
‡ Including 2,089,063 miles run by mixed trains.

SCOTLAND, in 1892.

EXCEPT WHEN OTHERWISE STATED, ENDED ON THE 31ST JANUARY 1893.

RECEIPTS (GROSS) FROM PASSENGER TRAFFIC.								RECEIPTS (GROSS) FROM GOODS TRAFFIC.						NAME OF COMPANY.
RECEIPTS FROM PASSENGERS.														
1st Class.	2d Class.	3d Class (including Parliamentary).	Holders of Season or Periodical Tickets.	TOTAL from Passengers.	Excess Luggage, Parcels, Carriages, Horses, Dogs, &c.	Mails.	TOTAL Receipts from Passenger Traffic.	Merchandise.	Live Stock.	Minerals.	TOTAL Receipts from Goods Traffic.	MISCELLANEOUS, Rents, Navigation, Steamboats, &c.	TOTAL RECEIPTS FROM ALL SOURCES OF TRAFFIC.	
£	£	£	£	£	£	£	£	£	£	£	£	£	£	
														Anstruther and St. Andrew's.
														Arbroath and Forfar.
														Ayr and Maybole.
136,170	21,877	756,337	85,712	1,000,096	164,243	73,443	1,237,782	916,348	64,440	1,049,816	2,030,604	169,648	3,438,034	Caledonian.
														Callander and Oban.
														Cathcart District.
2,249	-	-	18,648	3,664	24,561	5,851	100	30,512	23,229	984	19,599	43,812	9,245	83,569	City of Glasgow Union.
														Dundee and Newtyle.
														Edinburgh and Bathgate.
														Eyemouth.
														Findhorn.
														Forth and Clyde Junction.
														Forth Bridge.
50,030	-	-	361,850	36,665	448,545	76,097	16,788	541,430	395,919	26,598	303,571	726,088	45,015	1,312,533	Glasgow and South-Western.
															Glasgow, Yoker, and Clydebank.
14,748	-	-	123,105	13,759	151,612	20,956	22,726	195,294	123,246	13,207	42,827	179,280	12,163	386,737	Great North of Scotland.
															Greenock and Wemyss Bay.
33,500	5,097	133,608	6,287	178,492	38,044	55,526	272,062	125,608	26,610	29,540	181,758	7,149	460,969	Highland.
															Killin.
															Kilmarnock and Troon.
															Kilsyth and Bonnybridge.
															Lanarkshire and Ayrshire.
															Newport.
126,587	4,059	875,275	88,426	1,094,347	161,930	30,064	1,286,341	950,026	70,556	962,921	1,983,503	54,691	3,324,535	North British.
3,271	315	17,088	168	20,842	6,069	4,903	31,814	10,332	5,606	4,683	20,621	3,119	55,554	Portpatrick and Wigtownshire Joint Committee.
														Solway Junction.
366,555	31,348	2,285,911	234,681	2,918,495	478,190	203,550	3,595,235	2,544,708	208,001	2,412,957	5,165,666	301,030	9,061,931	TOTAL SCOTLAND.

† Including 2,696,435 miles run by miners trains.

No. 2.—Traffic, &c.,

NAME OF COMPANY.	LENGTH OF LINE IN MILES open on 31st December 1892.			PASSENGER TRAFFIC. NUMBER OF PASSENGERS CONVEYED (exclusive of Season and Periodical Tickets).					GOODS TRAFFIC.		NUMBER OF MILES TRAVELLED BY TRAINS.		
	Double or more.	Single.	Total.	1st Class.	2d Class.	3d Class (including Parliamentary).	Total.	Holders of Season or Periodical Tickets.	Minerals.	General Merchandise.	Passenger Trains.	Goods and Mineral Trains.	Total.
									Tons.	*Tons.*			
Athenry and Ennis Junction	*Leased to the Waterford and Limerick.*												
Athenry and Tuam	*Leased to the Waterford and Limerick.*												
Ballycastle	-	16	16	2,852	5,106	97,359	105,317	27	2,835	6,501	Mixed.		39,467
Belfast and County Down	7	69	76	157,901	450,095	1,268,867	1,876,863	11,697	174,404	80,884	470,039	92,707	562,746
Belfast and Northern Counties (Including the "Derry Central," "Draperstown," and "Limavady and Dungiven.")	33	216	249	111,247	220,292	2,188,778	2,520,317	710	246,202	379,284	902,395	460,501	1,362,896
City of Dublin Junction	*Worked by the Dublin, Wicklow, and Wexford.*												
Clara and Banagher	*Worked by the Great Southern and Western of Ireland.*												
Clonakilty Extension	*Worked by the Cork, Bandon, and South Coast.*												
Cork and Macroom Direct	-	25	25	6,373	19,849	124,590	150,812	32*	5,280	24,661	Mixed.		73,240
Cork, Bandon, and South Coast (Including the "Bantry Extension," "Bantry Bay Extension," "Clonakilty Extension," and "Ilen Valley.")	-	86	86	13,502	37,351	278,368	329,221	132	17,748	89,921	16,681	287,264	303,945
Cork, Blackrock, and Passage	-	6	6	201,954	-	432,102	634,056	805	-	1,048	67,001	-	67,001
Derry Central	*Worked by the Belfast and Northern Counties.*												
Donegal	-	32	32	2,316	9,264	89,075	100,655	17	29,060		Mixed.		77,393
Draperstown	*Worked by the Belfast and Northern Counties.*												
Dublin and Kingstown	*Leased to the Dublin, Wicklow, and Wexford.*												
Dublin, Wicklow, and Wexford (Including the "City of Dublin Junction," and "Dublin and Kingstown.")	29	115	144	356,347	2,099,019	2,701,538	5,156,904	8,682	29,221	154,094	904,327	211,748	1,116,075
Dundalk, Newry, and Greenore	-	26	26	2,703	6,793	114,516	124,012	34	40,267		41,809	35,123	76,932
Enniskillen, Bundoran, and Sligo	*Worked by the Great Northern of Ireland.*												
Fermoy and Lismore	*Worked by the Great Southern and Western of Ireland.*												
Great Northern of Ireland (Including the "Enniskillen, Bundoran, and Sligo," for the year ended 30th September 1892.)	139	383	522	163,317	630,741	3,728,079	4,522,137	2,603	322,049	626,211	2,075,057	971,952	3,047,009
Great Southern and Western of Ireland (Including the "Clara and Banagher," "Fermoy and Lismore," "Kanturk and Newmarket," to 30th June,† and "Mitchelstown and Fermoy Light Railway.")	208	367	575	174,556	361,863	2,463,877	3,000,296	882	237,261	724,229	2,108,525	1,331,472	3,439,997
Ilen Valley	*Worked by the Cork, Bandon, and South Coast.*												
Kilkenny Junction	*Worked by the Waterford and Central Ireland.*												
Letterkenny	*Worked by the Londonderry and Lough Swilly.*												
Limavady and Dungiven	*Worked by the Belfast and Northern Counties.*												
Limerick and Kerry	*Worked by the Waterford and Limerick.*												
Listowel and Ballybunion	-	9	9	2,217	-	36,135	38,352	169§	4,138	1,099	Mixed.		20,532
Londonderry and Lough Swilly (Including the "Letterkenny.")	-	31	31	11,388	34,809	250,827	297,024	518	11,031	39,604	Mixed.		94,825

* Equivalent number of annual tickets.

† Sold to Great Southern and Western as from 1st July 1892.

IRELAND, in 1892.

RECEIPTS (GROSS) FROM PASSENGER TRAFFIC.								RECEIPTS (GROSS) FROM GOODS TRAFFIC.				MISCELLANEOUS, RENTS, TOLLS, NAVIGATION, STEAMBOATS, &c.	TOTAL RECEIPTS FROM ALL SOURCES OF TRAFFIC.	NAME OF COMPANY.
RECEIPTS FROM PASSENGERS.														
1st Class.	2d Class.	3d Class (including Parliamentary).	Holders of Season or Periodical Tickets.	TOTAL from Passengers.	Excess Luggage, Parcels, Carriages, Horses, Dogs, &c.	Mails.	TOTAL Receipts from Passenger Traffic.	Merchandise.	Live Stock.	Minerals.	TOTAL Receipts from Goods Traffic.			
£	£	£	£	£	£	£	£	£	£	£	£	£	£	
														Athenry and Ennis Junction
														Athenry and Tuam.
163	208	2,266	26	2,663	222	300	3,185	1,138	131	206	1,475	18	4,678	Ballycastle.
7,891	15,615	35,823	10,678	69,507	4,870	1,400	75,777	17,641	1,802	12,300	31,743	1,058	108,578	Belfast and County Down.
12,204	16,610	81,157	6,424	116,395	12,565	11,776	140,736	87,405	5,188	26,597	119,190	1,839	261,765	Belfast and Northern Counties.
														City of Dublin Junction.
														Clara and Banagher.
														Clonakilty Extension.
457	1,016	4,577	131	6,181	809	- -	6,990	5,280	1,228	812	7,320	150	14,460	Cork and Macroom Direct.
3,270	5,872	17,811	532	27,485	3,003	3,020	33,508	29,231	6,336	1,608	37,225	148	70,881	Cork, Bandon, and South Coast.
3,722	- -	4,723	1,275	9,720	437	- -	10,157	267	- -	- -	267	8,917	19,341	Cork, Blackrock, and Passage.
														Derry Central.
303	722	3,805	85	4,915	761	258	5,934	5,704‡	1,019	- -	6,723	61	12,718	Donegal.
														Draperstown.
														Dublin and Kingstown.
19,883	63,986	63,929	24,025	171,823	16,391	12,010	200,224	47,746	7,877	3,044	58,667	4,724	263,615	Dublin, Wicklow, and Wexford.
203	351	2,635	51	3,240	1,130	24	4,394	5,835‡	714	- -	6,549	2,967	13,910	Dundalk, Newry, and Greenore.
														Enniskillen, Bundoran, and Sligo.
														Fermoy and Lismore.
33,528	67,776	206,505	8,900	316,709	39,142	44,380	400,231	244,538	38,268	42,811	325,617	8,231	734,079	Great Northern of Ireland
48,421	66,620	209,286	3,749	328,076	54,615	41,471	424,162	276,588	74,408	34,606	385,602	2,989	812,753	Great Southern and Western Ireland.
														Ilen Valley.
														Kilkenny Junction.
														Letterkenny.
														Limavady and Dungiven.
														Limerick and Kerry.
115	-	1,012	34	1,161	4	92	1,293	169	1	345	515	133	1,941	Listowel and Ballybunion.
646	1,273	6,336	328	8,583	461	140	9,184	5,397	947	563	6,907	96	16,187	Londonderry and Lough Swilly

‡ Including receipts from minerals.

§ Weekly tickets.

NAME OF COMPANY.	LENGTH OF LINE IN MILES open on 31st December 1892.			PASSENGER TRAFFIC. NUMBER OF PASSENGERS CONVEYED (exclusive of Season and Periodical Tickets).					GOODS TRAFFIC.		NUMBER OF MILES TRAVELLED BY TRAINS.		
	Double or more.	Single.	TOTAL.	1st Class.	2d Class.	3d Class (including Parliamentary).	TOTAL.	Holders of Season or Periodical Tickets.	Minerals.	General Merchandise.	Passenger Trains.	Goods and Mineral Trains.	TOTAL.
									Tons.	*Tons.*			
Midland Great Western of Ireland (Including the "Ballinrobe and Claremorris"* and "Loughrea and Attymon Light Railways.")	160	294	454	83,042	131,964	937,683	1,152,689	263	54,697	388,313	1,307,279	853,646	2,160,925
Rathkeale and Newcastle Junction	*Worked by the Waterford and Limerick.*												
Sligo, Leitrim, and Northern Counties	- -	43	43	1,910	7,979	103,828	113,717	51	7,438	29,128	Mixed.		100,164
Southern	*Worked by the Waterford and Limerick.*												
Tralee and Fenit	*Worked by the Waterford and Limerick.*												
Waterford and Central Ireland, for the year ended 29th September 1892. (Including the "Central Ireland" for the year ended 29th September 1892, and the "Kilkenny Junction" for the year ended 1st November 1892.)	- -	67	67	8,719	36,904	182,178	227,801	678	26,370	89,133	145,412	43,624	189,036
Waterford and Limerick (Including the "Athenry and Ennis Junction," "Athenry and Tuam," "Limerick and Kerry," "Rathkeale and Newcastle Junction," "Southern," and "Tralee and Fenit.")	32	247	279	38,331	124,216	1,011,771	1,174,318	677	79,271	287,581	698,086	191,469	889,555
Waterford and Tramore	- -	7	7	73,530	- -	115 991	189,521	70	2,100	2,000	42,832	639	43,471
Waterford and Wexford	- -	9	9	Line practically closed for traffic.									
Waterford, Dungarvan, and Lismore	- -	43	43	2,819	12,510	106,515	121,844	4	2,025	20,314	Mixed.		83,879
TOTAL	603	2,082	2,690	1,415,024	4,188,755	16,232,077	21,835,856	28,051	1,222,120	2,944,005	8,779,443	4,480,145	13,740,088†
										69,327			

* Opened for traffic on 1st November 1892.

LIGHT RAILWAYS AUTHORISED UNDER THE

Ballinlscarthy and Timoleague Junction	*See* Timoleague and Courtmacsherry Extension, &c.												
Ballinrobe and Claremorris	*Worked by the Midland Great Western of Ireland.*												
Bessbrook and Newry Tramway	- -	3	3	5,562	- -	83,939	89,501	35	9,271	6,324	Mixed.		22,500
Carrickfergus Harbour Junction	- -	1	1	- -	- -	- -	- -	- -	7,239	- -	- -	540	540
Cavan, Leitrim, and Roscommon Light Railway and Tramway, for the year ended 1st November 1892.	- -	48	48	3,850	- -	89,725	93,575	24	4,853	11,560	Mixed.		100,958
Clogher Valley Tramway, for the year ended 30th September 1892.	- -	37	37	7,315	- -	96,803	104,118	9	4,568	11,990	Mixed.		83,280
Cork and Muskerry	- -	18	18	53,504	- -	265,955	319,459	116	4,663	7,568	Mixed.		74,075
Loughrea and Attymon	*Worked by the Midland Great Western of Ireland.*												
Mitchelstown and Fermoy	*Worked by the Great Southern and Western of Ireland.*												
Schull and Skibbereen	- -	15	15	1,220	- -	35,182	36,402	- -	- -	2,457	20,155	2,713	22,868
South Clare (Kilkee and Cappa Section) *	- -	10	10	4,255	- -	11,969	16,224	- -	- -	296	Mixed.		4,400
Timoleague and Courtmacsherry Extension, and Ballinlscarthy and Timoleague Junction.	-	9	9	2,173	- -	26,998	29,171	- -	- -	5,072	Mixed.		18,433
Tralee and Dingle, for the year ended 30th November 1892.	- -	37	37	2,797	- -	38,385	41,182	- -	- -	- -	Mixed.		54,590
West Clare, for the year ended 31st October 1892	- -	27	27	7,726	- -	73,796	81,522	1	- -	10,146	Mixed.		63,210
TOTAL LIGHT RAILWAYS	- -	205	205	88,402	- -	722,752	811,154	185	30,594	55,413	20,155	3,253	444,879†
GRAND TOTAL, IRELAND	603	2,287	2,895	1,503,426	4,188,755	16,954,829	22,647,010	28,236	1,252,714	2,999,418	8,799,598	4,483,398	14,183,967‡
										69,327			

* For the period from the opening of the line (on 13th August) to 31st October 1892.

TABLE NO. 2A.

The following Company has, in addition, given the Number of Miles of Single, Double, Treble, and Quadruple or more Lines of Rails belonging to or worked by it.

NAME OF COMPANY.	LENGTH OF LINE IN MILES ON 31ST DECEMBER 1892.				
	Single Lines.	Double Lines.	Three Lines.	Four Lines or more.	TOTAL.
IRELAND.					
DUBLIN, WICKLOW, AND WEXFORD	115	28	1	—	144

RECEIPTS (GROSS) FROM PASSENGER TRAFFIC.								RECEIPTS (GROSS) FROM GOODS TRAFFIC.						NAME OF COMPANY.
RECEIPTS FROM PASSENGERS.					Excess Luggage, Parcels, Carriages, Horses, Dogs, &c.	Mails.	TOTAL Receipts from Passenger Traffic.	Merchandise.	Live Stock.	Minerals.	TOTAL Receipts from Goods Traffic.	MISCELLANEOUS, RENTS, TOLLS, NAVIGATION, STEAMBOATS, &c.	TOTAL RECEIPTS FROM ALL SOURCES OF TRAFFIC.	
1st Class.	2d Class.	3d Class (including Parliamentary).	Holders of Season or Periodical Tickets.	TOTAL from Passengers.										
£	£	£	£	£	£	£	£	£	£	£	£	£	£	
27,077	35,912	111,841	1,556	176,386	29,031	29,185	234,602	184,794	75,257	9,480	269,531	11,203	515,336	Midland Great Western of Ireland.
														Rathkeale and Newcastle Junction.
363	1,013	5,227	86	6,689	835	395	7,919	5,004	1,799	1,050	7,853	197	15,969	Sligo, Leitrim, and Northern Counties.
														Southern.
														Tralee and Fenit.
1,417	3,864	9,747	721	15,749	1,723	1,250	18,722	14,004	6,982	4,390	25,376	2,413	46,511	Waterford and Central Ireland.
5,912	13,519	50,050	1,464	70,945	11,802	10,425	93,172	65,168	25,829	12,772	103,769	3,912	200,853	Waterford and Limerick.
2,470	-	2,518	594	5,582	245	30	5,857	232	7	102	341	87	6,285	Waterford and Tramore.
														Waterford and Wexford.
496	1,312	5,492	46	7,346	997	190	8,533	5,534	1,934	201	7,669	132	16,334	Waterford, Dungarvan, and Lismore.
168,041	295,669	824,740	60,705	1,349,155	179,079	156,346	1,684,580	1,001,725	249,727	150,887	1,402,339	49,275	3,136,194	TOTAL.

† Including 480,500 miles run by mixed trains.

TRAMWAYS (IRELAND) ACTS, 1860 TO 1883.

														Balliniscarthy and Timoleague Junction.
														Ballinrobe and Claremorris.
65	-	-	634	26	725	40	-	-	765	352	-	-	484	836	67	1,668	Bessbrook and Newry Tramway.
-	-	-	-	-	-	-	-	-	-	-	-	-	107	107	9	116	Carrickfergus Harbour Junction.
365	-	-	3,058	36	3,459	451	11	3,921	2,055	1,089	528	3,672	-	-	7,593	Cavan, Leitrim, and Roscommon Light Railway and Tramway.
373	-	-	2,577	31	2,981	311	90	3,382	2,339	163	495	2,997	93		6,472	Clogher Valley Tramway.
1,442	-	-	4,943	213	6,598	275	-	-	6,873	1,212	251	270	1,733	89		8,695	Cork and Muskerry.
																	Loughrea and Attymon.
																	Mitchelstown and Fermoy.
102	-	-	1,042	-	-	1,144	54	-	-	1,198	646	205	-	-	851	-	-	2,049	Schull and Skibbereen.
232	-	-	394	-	-	626	5	-	-	631	65	30	-	-	95	5		731	South Clare.
74	-	-	434	-	-	508	41	13		562	368	88	-	-	456	89		1,107	Timoleague and Courtmacsherry Extension, and Balliniscarthy and Timoleague Junction.
322	-	-	1,890	-	-	2,212	638	-	-	2,850	1,602	225	38		1,865	-	-	4,715	Tralee and Dingle.
777	-	-	3,691	6		4,474	252	350		5,076	2,587	703	-	-	3,290	45		8,411	West Clare.
3,752	-	-	18,663	312		22,727	2,067	464		25,258	11,226	2,754	1,922		15,902	397		41,557	TOTAL LIGHT RAILWAYS.
171,793	295,669	843,403	61,017		1,371,882	181,146	156,810		1,709,838	1,012,951	252,481	152,809		1,418,241	49,672	3,177,751	GRAND TOTAL, IRELAND.

† Including 421,471 miles run by mixed trains.

‡ Including 910,971 miles run by mixed trains.

RAILWAY RETURNS.—1892.

No. 3.—WORKING EXPENDITURE, NET RECEIPTS, AND ROLLING STOCK.

RETURN showing the AMOUNT of the WORKING EXPENDITURE, and of the NET RECEIPTS, &c., and NUMBER of EACH KIND of ROLLING STOCK, for the several RAILWAY COMPANIES, in ENGLAND and WALES, SCOTLAND, and IRELAND for the Year 1892.

No. 3.—Working Expenditure, Net Receipts, and

NAME OF COMPANY.	Length of Line in Miles open on 31st December 1892.	WORKING EXPENDITURE. Maintenance of Way, Works, &c.	Locomotive Power (including Stationary Engines).	Repairs and Renewals of Carriages and Waggons.	Traffic Expenses (Coaching and Merchandise).	General Charges.	Rates and Taxes.	Government Duty.	Compensation for Personal Injuries, &c.	Compensation for Damage and Loss of Goods.	Legal and Parliamentary Expenses.
	No.	£	£	£	£	£	£	£	£	£	£
Abbotsbury	*Worked by the Great Western.*										
Aberdare	*Leased to the Taff Vale.*										
Abingdon	*Leased to the Great Western.*										
Alexandra (Newport and South Wales) Docks and Railway.	3	3,156	8,180	533	4,260	8,684	5,208	- -	- -	- -	1,297
Balz and Festiniog	*Worked by the Great Western.*										
Banbury and Cheltenham Direct	*Worked by the Great Western.*										
Barnoldswick	*Worked by the Midland.*										
Barry	29	16,393	23,812	2,603	16,038	7,656	15,591	93	- -	87	3,170
Birkenhead	*Vested jointly in the Great Western and the London and North-Western.*										
Bishop's Castle	10	619	760	47	541	505	45	52	- -	- -	63
Brading Harbour Improvement and Railway	*Worked by the Isle of Wight.*										
Brecon and Merthyr Tydfil Junction	59	9,034	13,438	3,648	12,422	3,334	1,792	60	- -	193	- -
Bridgwater	*See under Somerset and Dorset.*										
Bridport	*Leased to the Great Western.*										
Brighton and Dyke	*Worked by the London, Brighton, and South Coast.*										
Buckfastleigh, Totnes, and South Devon	*Worked by the Great Western.*										
Buckley	*Worked by the Wrexham, Mold, and Connah's Quay.*										
Burry Port and Gwendreath Valley	19	1,772	1,763	68	852	996	381	- -	- -	- -	38
Cambrian (including the Mid Wales and the Llanyblodwell Branch of the Shropshire.)	232	33,845	38,629	12,353	36,291	10,042	3,833	633	38	532	1,007
Cannock Chase and Wolverhampton	6	1,454	- -	- -	449	414	- -	- -	- -	- -	- -
Charnwood Forest	*Worked by the London and North-Western.*										
Cheshire Lines Committee (including "Southport and Cheshire Lines Extension.")	137	86,320	220,382	30,492	216,509	28,697	20,984	1,789	1,249	1,344	3,030
City and South London	3	830	12,383†	839	11,976	3,182	920	- -	200	- -	157
Cleator and Workington Junction	29	3,580	12,866	431	4,753	1,340	794	7	- -	20	222
Cockermouth, Keswick, and Penrith	32	5,386	15,831		4,348	1,562	779	121	- -	55	351
Colchester, Stour Valley, Sudbury, and Halstead	*Leased to the Great Eastern.*										
Colne Valley and Halstead	19	1,524	3,379	477	2,882	1,451	364	23	- -	54	364
Cornwall Minerals	*Worked by the Great Western.*										
Corris	11	536	502	278	1,218	19	88	14	- -	- -	- -
Corwen and Bala	*Leased to the Great Western.*										
Cowbridge and Aberthaw	*Worked by the Taff Vale.*										
Cranbrook and Paddock Wood (Light)	*Worked by the South-Eastern.*										
Devon and Somerset	*Worked by the Great Western.*										
Didcot, Newbury, and Southampton	*Worked by the Great Western and London and South-Western.*										
Dover and Deal Committee	9	1,933	3,539		1,842	714	141	25	- -	- -	63
Dowlais (including the "Dowlais Extension.")	2	No public traffic.									
Downham and Stoke Ferry	*Leased to the Great Eastern.*										
Easingwold	2	179	326	5	550	129	23	1	- -	2	- -

* Including 450*l.* paid to the Shrewsbury and Hereford Joint Committee for rent and 585*l.* for hire of rolling stock.

Rolling Stock, ENGLAND AND WALES, in 1892.

Steamboat, Canal, and Harbour Expenses.	Miscellaneous Working Expenditure not included in the foregoing.	Total Working Expenditure.	Total Receipts, as given in the Traffic Return, No. 2.	Net Receipts.	Proportion per Cent. of Expenditure to Receipts.	Rolling Stock on 31st December 1892. Locomotives.	Carriages, Waggons, Trucks, &c. Carriages used for the Conveyance of Passengers only.	Other Vehicles attached to Passenger Trains.	Waggons of all kinds used for the Conveyance of Live Stock, Minerals, or General Merchandise.	Any other Carriages or Waggons used on the Railway not included in the preceding Columns.	Total Number of Vehicles of all descriptions for Conveyance of Passengers, Live Stock, Ballast, &c.	Name of Company.
£	£	£	£	£		*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	
												Abbotsbury.
												Aberdare.
												Abingdon.
-	-	44,903	76,221	140,899	64,678	54	24	- -	- -	548	- -	548 Alexandra (Newport and South Wales) Docks and Railway.
												Bala and Festiniog.
												Banbury and Cheltenham Direct.
												Barnoldswick.
50,418		159	136,020	310,309	174,289	44	61	29	8	245	331	613 Barry.
												Birkenhead.
-	-	1,195*	3,827	3,934	107	97	2	6	- -	19	- -	25 Bishop's Castle.
												Brading Harbour Improvement and Railway.
-	-	- -	43,921	75,019	31,098	59	30	38	5	536	21	600 Brecon and Merthyr Tydfil Junction
												Bridgwater.
												Bridport.
												Brighton and Dyke.
												Buckfastleigh, Totnes, and South Devon.
												Buckley.
2,753		- -	8,603	10,177	1,574	85	4	- -	- -	53	- -	53 Burry Port and Gwendreath Valley.
-	-	943	138,146	244,018	105,872	57	59	164	45	1,877	37	2,123 Cambrian.
-	-	- -	2,317	3,993	1,676	- -	- -	- -	- -	510	- -	510 Cannock Chase and Wolverhampton.
												Charnwood Forest.
-	-	43,216	654,012	825,370	171,358	79	- -	302	105	2,773	- -	3,180 Cheshire Lines Committee.
-	-	- -	30,487	44,308	13,821	69	16‡	36	- -	- -	- -	36 City and South London.
-	-	346	24,359	37,210	12,851	65	5	- -	- -	200	16	216 Cleator and Workington Junction.
-	-	65	28,498	47,617	19,119	60	Provided by the "London and North-Western" and "North-Eastern" Companies.					Cockermouth, Keswick, and Penrith.
												Colchester, Stour Valley, Sudbury, and Halstead.
-	-	36	10,554	13,459	2,905	78	4	10	8	10	60	88 Colne Valley and Halstea
												Cornwall Minerals.
-	-	- -	2,847	3,608	761	79	3	7	1	13	- -	26 Corris.
												Corwen and Bala.
												Cowbridge and Aberthaw.
												Cranbrook and Paddock Wood (Light).
												Devon and Somerset.
												Didcot, Newbury, and Southampton.
-	-	156	8,413	8,537	124	99	Locomotive power and rolling stock provided by the Companies owning the line.					Dover and Deal Committee.
												Dowlais.
												Downham and Stoke Ferry.
-	-	41	1,256	1,311	55	96	1	2	- -	- -	- -	2 Easingwold.

† Cost of locomotive and generating power.

‡ Electric locom tives.

NAME OF COMPANY.	Length of Line in Miles open on 31st December 1892.	WORKING EXPENDITURE. Maintenance of Way, Works, &c.	Locomotive Power (including Stationary Engines).	Repairs and Renewals of Carriages and Waggons.	Traffic Expenses (Coaching and Merchandise).	General Charges.	Rates and Taxes.	Government Duty.	Compensation for Personal Injuries, &c.	Compensation for Damage and Loss of Goods.	Legal and Parliamentary Expenses.
	No.	£	£	£	£	£	£	£	£	£	£
East and West Junction	*Worked by the East and West Junction and Stratford-upon-Avon, Towcester, and Midland Junction*										
East and West Junction and Stratford-upon-Avon, Towcester, and Midland Junction Joint Committee. (Including the "Evesham, Redditch, and Stratford-upon-Avon Junction.")	52	4,439	8,226	6,051	5,209	1,664	205	59	- -	145	- -
East and West Yorkshire Union	3	299	1,661		176	612	101	- -	- -	- -	- -
East Cornwall Mineral* (Calstock to Callington)	7	203	559	127	460	287	60	- -	- -	- -	- -
Eastern and Midlands: Lynn, Yarmouth, and Norwich Section	*See* note, page iii.										
East Lincolnshire	*Leased to the Great Northern.*										
East London (Joint Committee)	7	3,610	- -	- -	24,916	5,461	3,354	110	31	- -	1,592
Ely and Newmarket	*Leased to the Great Eastern.*										
Ely and St. Ives	*Worked by the Great Eastern.*										
Ely Valley	*Worked by the Great Western.*										
Evesham, Redditch, and Stratford-upon-Avon Junction.	*Worked by the East and West Junction and Stratford-upon-Avon, Towcester, and Midland Junction*										
Exmouth Docks and Railway§	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Festiniog	14	1,389	2,624	1,186	2,932	902	726	189	- -	19	71
Forcett	5	434	757		41	406	33	- -	- -	- -	16
Forest of Dean Central	*Worked by the Great Western.*										
Freshwater, Yarmouth, and Newport	*Worked by the Isle of Wight Central.*										
Furness (Including half the "Whitehaven, Cleator, and Egremont" Joint Line.)	134	35,988	59,463	35,808	57,964	12,718	12,687	585	- -	709	1,661
Garstang and Knot End	7	700	725	66	422	333	14	42	- -	- -	- -
Glyn Valley Tramway	9	296	914	332	346	295	185	- -	- -	- -	- -
Golden Valley	19	803	586	111	367	346	45	3	- -	- -	- -
Gorsedda Junction and Portmadoc	11	- -	- -	- -	- -	20	8	- -	- -	- -	- -
Great Eastern (Including the "Colchester, Stour Valley, Sudbury, and Halstead," "Downham and Stoke Ferry," "Ely and Newmarket," "Ely and St. Ives," "London and Blackwall," "Mellis and Eye," "Northern and Eastern," "Ramsey and Somersham Junction," "Thetford and Watton," "Watton and Swaffham," and the "Wivenhoe and Brightlingsea," half the "Great Northern and Great Eastern Joint Line," and part of the "Tottenham and Hampstead Junction.")	1,103	361,278	678,545	187,134	756,390	115,217	147,339	18,175	23,962	13,560	11,058
Great Marlow	3	596	1,215		510	170	98	105	- -	3	- -
Great Northern (Including the "East Lincolnshire," "Holme and Ramsey," "Horncastle," "Louth and East Coast," "Muswell Hill and Palace," "Nottingham and Grantham," "Nottingham Suburban," "Royston and Hitchin," "Stamford and Essendine," "Sutton and Willoughby," "Wainfleet and Firsby," and "Skegness Extension," and part of the "Great Northern and Great Eastern," "Halifax and Ovenden," and "West Riding and Grimsby" joint lines.)	828	398,162	748,531	194,113	810,771	109,661	122,302	14,090	5,376	225	9,289
Great North of England, Clarence, and Hartlepool Junction.	*Leased to the North-Eastern.*										
Great Western (Including the "Abbotsbury," "Abingdon," "Alcester Joint Line," "Bala and Festiniog," "Banbury and Cheltenham Direct," "Bridport," "Buckfastleigh, Totnes, and South Devon," "Calne" to 30th June,¶ "Cornwall Minerals," "Corwen and Bala," "Devon and Somerset," "Dideot, Newbury, and Southampton (except Shawford Junction Line)," "Ely Valley," "Forest of Dean Central," "Helston," "Kington and Eardisley," "Leominster and Kington," "Llangollen and Corwen," "Marlborough," "Milford," "Minchead," "Much Wenlock and Severn Junction," "Nantwich and Market Drayton," "Newent" to 30th June,¶ "Oldbury," "Princetown," "Ross and Ledbury" to 30th June,¶ "Ross and Monmouth," "Staines and West Drayton," "Teign Valley," "Tiverton and North Devon," "Vale of Llangollen," "Wellington and Severn Junction" to 30th June,¶ "Wenlock" and "Wenlock Extensions," "West Cornwall Railway," "West Somerset," and "Wye Valley;" and jointly with other Companies the "Birkenhead," "Clifton Extension," "Halesowen," "Hammersmith and City," "Ludlow and Clee Hill," "Shrewsbury and Hereford," "Shrewsbury and Wellington," "Shrewsbury and Welshpool," "Tenbury," "Vale of Towy," "Victoria Station and Pimlico," "West London," "Weymouth and Portland," and "Wrexham and Minera Extension.")	2,481	982,710	1,354,406	414,083	1,379,826	182,850	241 018	64,705	9,099	35,997	29,780

* The line was worked by the "Plymouth, Devonport, and South-Western Junction" Railway Company.

† And one stationary engine.

‖ Including 116*l.* for hire of locomotive.

** Exclusive of the expenditure of the Stratford-upon-Avon, Towcester, and Midland Junction Company for General and Legal Charges.

Steamboat, Canal, and Harbour Expenses.	Miscellaneous Working Expenditure not included in the foregoing.	Total Working Expenditure.	Total Receipts, as given in the Traffic Return, No. 2.	Net Receipts.	Proportion per Cent. of Expenditure to Receipts.	Rolling Stock on 31st December 1892. Locomotives.	Carriages, Waggons, Trucks, &c. Carriages used for the Conveyance of Passengers only.	Other Vehicles attached to Passenger Trains.	Waggons of all kinds used for the Conveyance of Live Stock, Minerals, or General Merchandise.	Any other Carriages or Waggons used on the Railway, not included in the preceding Columns.	Total Number of Vehicles of all descriptions for Conveyance of Passengers, Live Stock, Ballast, &c.	Name of Company.
£	£	£	£	£		*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	
Joint Committee.												*East and West Junction.*
- -	100	**26,098	27,014	916	97	10	15	3	42	4	64	East and West Junction and Stratford-upon-Avon, Towcester, and Midland Junction Joint Committee.
- -	- -	2,849	7,586	4,737	38	- -	- -	- -	- -	- -	- -	East and West Yorkshire Union.
- -	199	1,895	2,855	960	66	2†	- -	- -	148	- -	148	East Cornwall Mineral* (Calstock to Callington).
												Eastern and Midlands: Lynn, Yarmouth, and Norwich Section.
												East Lincolnshire.
- -	1,564‡	40,638	50,406	9,768	- -	The traffic is carried in the trains of the Companies using the Line.						East London (Joint Committee).
												Ely and Newmarket.
												Ely and St. Ives.
												Ely Valley.
Joint Committee.												*Evesham, Redditch, and Stratford-upon-Avon Junction.*
- -	- -	- -	- -	- -	- -	- -	- -	- -	- -		- -	Exmouth Docks and Railway.§
- -	37	10,069	17,769	7,700	57	9	55	5	1,164	- -	1,224	Festiniog.
- -	- -	1,687	3,275	1,588	52	Supplied by the "North-Eastern" Company.						Forcett.
												Forest of Dean Central.
												Freshwater, Yarmouth, and Newport.
12,470	- -	230,053	455,288	225,235	51	123	265	96	7,142	76	7,579	Furness.
- -	117‖	2,419	3,483	1,064	69	2	4	- -	35	- -	39	Garstang and Knot End.
- -	- -	2,368	4,308	1,940	55	3	7	- -	198	15	220	Glyn Valley Tramway.
- -	609	2,870	2,033	837 Deficiency.	141	1	2	1	- -	- -	3	Golden Valley.
- -	- -	28	- -	28 Deficiency.	- -	1	- -	- -	7	- -	7	Gorsedda Junction and Portmadoc.
216,601	6,712	2,535,971	4,386,905	1,850,934	58	928	2,925	938	15,944	369	20,176	Great Eastern.
- -	16	2,713	4,127	1,414	66	Supplied by the "Great Western" Company.						Great Marlow.
14,551	8,077	2,454,148	4,199,733	1,745,585	58	949	2,138	630	31,670	614	35,052	Great Northern.
												Great North of England, Clarence, and Hartlepool Junction.
174,289	9	4,868,772	9,030,712	4,161,940	54	1,690	3,623	1,791	43,538	2,420	51,372	Great Western.

‡ Cost of pumping for tunnels.

§ The Railway is merely a branch line from the Docks to the London and South-Western Railway.

* Amalgamated with the "Great Western" as from 1st July 1892.

NAME OF COMPANY.	Length of Line in Miles open on 31st December 1892.	WORKING EXPENDITURE. Maintenance of Way, Works, &c.	Locomotive Power (including Stationary Engines).	Repairs and Renewals of Carriages and Wagons.	Traffic Expenses (Coaching and Merchandise).	General Charges.	Rates and Taxes.	Government Duty.	Compensation for Personal Injuries, &c.	Compensation for Damage and Loss of Goods.	Legal and Parliamentary Expenses.
	No.	£	£	£	£	£	£	£	£	£	£
Gwendraeth Valleys	3	251	377	32	204	113	81	- -	- -	- -	50
Halesowen	*Worked by the Great Western and Midland Companies.*										
Halifax and Ovenden	*Included in the Returns of the Great Northern and Lancashire and Yorkshire.*										
Halifax High Level	*See* note, page iii.										
Hammersmith and City Junction	*Worked jointly by the Great Western and Metropolitan.*										
Harborne	*Worked by the London and North-Western.*										
Harrow and Stanmore	*Worked by the London and North-Western.*										
Hayling Railways	*Leased to the London, Brighton, and South Coast.*										
Helston	*Worked by the Great Western.*										
Horncastle	*Worked by the Great Northern.*										
Hounslow and Metropolitan	*Worked by the Metropolitan District.*										
Hull, Barnsley, and West Riding Junction Railway and Dock.	66	18,035	39,036	6,908	59,317	13,053	4,866	26	- -	945	6,211
Isle of Wight (Including "Brading Harbour.")	14	2,333	4,468	708	4,380	1,978	628	1,089	32	34	694
Isle of Wight Central (Including the "Freshwater, Yarmouth, and Newport.")	34	2,828	7,296	866	4,693	1,860	261	824	- -	- -	54
Kettering, Thrapstone, and Huntingdon	*Worked by the Midland.*										
King's Lynn Docks and Railway*	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Kington and Eardisley	*Worked by the Great Western.*										
Lancashire and Yorkshire (Including part of the "Halifax and Ovenden," "North Union," "Preston and Longridge," and "Preston and Wyre" Joint Lines.)	523	397,116	750,852	237,935	913,300	83,731	131,977	11,118	16,280	23,637	11,302
Leominster and Kington	*Worked by the Great Western.*										
Liskeard and Caradon (Including the "Liskeard and Looe Union Railway and Canal.")	22	895	850	177	826	104	136	3	- -	1	432
Liskeard and Looe Union Railway and Canal	*Worked by the Liskeard and Caradon.*										
Liverpool, Southport, and Preston Junction	*Worked by the West Lancashire.*										
Llanelly and Mynydd Mawr, for the year ended 31st October 1892.	12	733	1,431	81	633	172	35	- -	- -	4	- -
Llangollen and Corwen	*Leased to the Great Western.*										
London and Blackwall	*Leased to the Great Eastern.*										
London and Greenwich	*Leased to the South-Eastern.*										
London and North-Western (Including the "Charnwood Forest," "Cleator and Furness" Joint Line, "Harborne," "Harrow and Stanmore," "Mold and Denbigh Junction," and "Shropshire Union," and half of the "Ashby and Nuneaton," "Birkenhead and Branches," "Ludlow and Clee Hill," "Shrewsbury and Hereford," "Shrewsbury and Wellington," "Shrewsbury and Welshpool," and "Tenbury," and part of the "North Union," "Preston and Wyre," "West London," "West London Extension," and "Whitehaven, Cleator, and Egremont.")	1,888	1,110,769	1,653,786	457,643	2,393,578	299,504	285,512	43,679	16,572	61,751	37,876
London and South-Western (Including the "North Cornwall," "Plymouth, Devonport, and South-Western Junction," "Salisbury Railway and Market House," "Sidmouth," "Shawford Junction Line" (part of the Didcot, Newbury, and Southampton Railway), "Stonehouse Pool Improvement and Railway," and half of the "Weymouth and Portland," and part of the "West London Extension.")	850	331,608	513,426	145,226	581,801	75,029	111,190	27,035	9,031	12,672	6,797
London, Brighton, and South Coast (Including the "Brighton and Dyke," "Hayling Railways," and part of the "Croydon and Oxted," "Victoria Station and Pimlico," "West London Extension," and "Woodside and South Croydon.")	439	201,721	372,439	94,867	348,819	43,508	109,634	25,199	13,869	5,946	8,534
London, Chatham, and Dover (Including the "Mid Kent (Bromley to St. Mary Cray)," "Shortlands and Nunhead," and part of the "Victoria Station and Pimlico.")	185	84,258	102,769	51,292	229,872	39,018	75,657	15,277	6,068	2,602	6,230
Londonderry (Seaham to Sunderland) (Private property.)	7	12,611	7,311	240	1,684	536	620	220	- -	4	- -
London, Tilbury, and Southend	75	16,346	35,447	8,862	50,173	14,393	9,929	378	447	734	1,376
Longton, Adderley Green, and Bucknall	*Worked by the North Staffordshire.*										
Louth and East Coast	*Leased to the Great Northern.*										
Ludlow and Clee Hill	*Worked by the Great Western and London and North-Western jointly.*										

* The short tramway belonging to the Company is used only for the transit of goods between the "Great Eastern" Railway and the Docks.

Steamboat, Canal, and Harbour Expenses.	Miscellaneous Working Expenditure not included in the foregoing.	Total Working Expenditure.	Total Receipts, as given in the Traffic Return, No. 2.	Net Receipts.	Proportion per Cent. of Expenditure to Receipts.	Rolling Stock on 31st December 1892. Locomotives.	Carriages, Waggons, Trucks, &c. Carriages used for the Conveyance of Passengers only.	Other Vehicles attached to Passenger Trains.	Waggons of all kinds used for the Conveyance of Live Stock, Minerals, or General Merchandise.	Any other Carriages or Waggons used on the Railway not included in the preceding Columns.	Total Number of Vehicles of all descriptions for Conveyance of Passengers, Live Stock, Ballast, &c.	Name of Company.
£	£	£	£	£		*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	
- -	- -	1,108	1,399	291	79	- -	- -	- -	25	- -	25	Gwendraeth Valleys.
												Halesowen.
												Halifax and Ovenden.
												Halifax High Level.
												Hammersmith and City Junction.
												Harborne.
												Harrow and Stanmore.
												Hayling Railways.
												Helston.
												Horncastle.
												Hounslow and Metropolitan.
45,110	200	194,607	305,143	110,536	64	69	73	28	2,470	64	2,635	Hull, Barnsley, and West Riding Junction Railway and Dock.
- -	247	16,591	39,544	22,953	42	8	36	17	132	2	187	Isle of Wight.
- -	1,956	20,038	35,421	14,783	58	8	39	- -	164	- -	203	Isle of Wight Central.
												Kettering, Thrapstone, and Huntingdon.
16,339	- -	16,339	26,758	10,419	- -	- -	- -	- -	- -	- -	- -	King's Lynn Docks and Railway.*
												Kington and Eardisley.
71,923	3	2,649,074	4,463,976	1,814,902	59	1,171	3,099	547	22,775	- -	26,421	Lancashire and Yorkshire.
												Leominster and Kington.
- -	213	3,637	4,327	690	84	3	5	1	44	- -	50	Liskeard and Caradon.
												Liskeard and Looe Union Railway and Canal.
												Liverpool, Southport, and Preston Junction.
- -	2	3,091	4,874	1,783	- -	4	- -	- -	41	- -	41	Llanelly and Mynydd Mawr.
												Llangollen and Corwen.
												London and Blackwall.
												London and Greenwich.
163,313	23,632	6,547,615	11,737,646	5,190,031	56	2,712	5,131	2,335	56,672	4,486	68,624	London and North-Western.
177,315	26,937	2,018,067	3,619,092	1,601,025	56	598	2,182	1,053	8,851	670	12,756	London and South-Western.
102,216	43,620	1,370,372	2,670,984	1,300,612	51	417	2,174	640	7,298	471	10,583	London, Brighton, and South Coast.
112,910	9,856	825,809	1,470,034	644,225	56	210	909	199	1,967	118	3,193	London, Chatham, and Dover.
- -	2,094	25,120	30,762	5,642	82	11	19	2	26	- -	47	Londonderry (Seaham to Sunderland).
11,433	- -	149,518	262,877	113,359	57	36	297	18	952	- -	1,267	London, Tilbury, and Southend.
												Longton, Adderley Green, and Bucknall.
												Louth and East Coast.
												Ludlow and Clee Hill.

NAME OF COMPANY.	Length of Line in Miles open on 31st December 1892.	WORKING EXPENDITURE. Maintenance of Way, Works, &c.	Locomotive Power (including Stationary Engines).	Repairs and Renewals of Carriages and Waggons.	Traffic Expenses (Coaching and Merchandise).	General Charges.	Rates and Taxes.	Government Duty.	Compensation for Personal Injuries, &c.	Compensation for Damage and Loss of Goods.	Legal and Parliamentary Expenses.
	No.	£	£	£	£	£	£	£	£	£	£
Lydd	*Worked by the South-Eastern.*										
Macclesfield Committee	11	5,296	7,228		5,648	986	405	15	- -	157	176
Maenclochog	*See* note, page iii.										
Manchester and Milford	41	5,403	5,241	2,139	3,133	1,174	312	178	- -	43	79
Manchester, Sheffield, and Lincolnshire (Including the "Wigan Junction" and part of the "West Riding and Grimsby.")	344	153,897	302,209	79,181	407,738	59,445	51,133	1,805	936	6,018	7,658
Manchester, South Junction, and Altrincham	9	17,217	8,885	5,036	19,737	3,621	3,758	1,240	130	34	487
Marlborough	*Worked by the Great Western.*										
Maryport and Carlisle	41	8,758	17,639	5,381	12,716	2,956	3,044	169	- -	52	317
Mawddwy	7	236	599	8	136	123	21	17	- -	3	- -
Mellis and Eye	*Worked by the Great Eastern.*										
Merrybent and Darlington	6	32	215	- -	366	- -	75	-	- -	- -	- -
Mersey	4	3,042	16,670	2,331	15,767	4,442	2,372	110	47	8	470
Methley Joint Railway	6	2,416	- -	- -	1,827	193	459	3	- -	- -	12
Metropolitan (Including half the "Hammersmith and City.")	67	35,757	78,895	27,422	94,902	30,938	44,905	4,907	766	4	6,079
Metropolitan District (Including the "Richmond," "Ealing," and "Fulham" Extensions, and "Hounslow and Metropolitan.")	19	23,104	54,952	13,174	55,635	22,476	25,752	3,326	132	- -	1,425
Metropolitan and Metropolitan District City Lines and Extensions.	2	4,401	13,791		8,544	1,970	1,420	283	-	- -	378
Mid Kent (Bromley to St. Mary Cray)	*Leased to the London, Chatham, and Dover.*										
Midland (Including the "Barnoldswick," "Kettering, Thrapstone, and Huntingdon," "Manchester, Buxton, Matlock, and Midland Junction," the "Furness and Midland" Joint Line, and half the "Ashby and Nuneaton," "Clifton Extension," the "Great Western and Midland," from Malvern Wells to Malvern Link, "Midland and North-Eastern Committee" "Otley and Ilkley," "Tottenham and Hampstead Junction," and part of the "Halesowen.")	1,383	750,107	1,505,990	615,736	1,757,498	168,837	208,204	14,392	23,580	38,209	21,462
Midland and North-Eastern Committee (Swinton to Knottingley.)	*Included in the Returns of the Midland and North-Eastern Companies.*										
Midland and South-Western Junction	55	6,207	9,736	546	6,447	2,191	432	51	- -	140	274
Mid Wales	*Worked by the Cambrian.*										
Milford	*Worked by the Great Western.*										
Milford Haven Dock and Railway	*See* note, page iii.										
Minehead	*Worked by the Great Western.*										
Mold and Denbigh Junction	*Worked by the London and North-Western.*										
Much Wenlock and Severn Junction	*Worked by the Great Western.*										
Muswell Hill and Palace Railway	*Worked by the Great Northern.*										
Nantwich and Market Drayton	*Worked by the Great Western.*										
Neath and Brecon	40	7,817	4,136	1,655	4,692	1,783	583	25	- -	143	238
Northampton and Banbury Junction	15	1,978	2,191		1,991	929	144	86	- -	81	31
North and South West Junction	5	4,000	622		5,210	863	554	5	- -	- -	225
North Cornwall	*Worked by the London and South-Western.*										
North-Eastern (Including the "Great North of England, Clarence, and Hartlepool Junction," "Scarborough and Whitby," "Scarborough, Bridlington, and West Riding Junction," half the "Midland and North-Eastern Committee," and part of the "Otley and Ilkley" Joint Line.)	1,612	617,669	1,208,091	547,174	1,113,296	112,101	206,837	10,998	36,814	14,038	24,122
Northern and Eastern	*Leased to the Great Eastern.*										
North London	12	38,811	102,055	41,993	89,442	17,071	34,684	1,673	999	96	1,276
North Staffordshire (Including the "Longton, Adderley Green, and Bucknall.")	194	85,003	90,357	25,980	104,796	17,937	15,706	1,400	1,233	3,803	948
North Wales (Narrow Gauge)	12	952	829	263	710	317	42	15	- -	1	20
Nottingham and Grantham Railway and Canal	*Leased to the Great Northern.*										
Nottingham Suburban	*Worked by the Great Northern.*										
Oldbury	*Worked by the Great Western.*										
Oldham, Ashton-under-Lyne, and Guide Bridge Junction.	6	2,462	2,523		6,422	697	518	18	- -	85	157

* Locomotive power supplied by the Manchester, Sheffield, and Lincolnshire Railway Company.
‡ Towards this expenditure 54,926*l.* was received for working other Companies' traffic.

Steamboat, Canal, and Harbour Expenses.	Miscellaneous Working Expenditure not included in the foregoing.	Total Working Expenditure.	Total Receipts, as given in the Traffic Return, No. 2.	Net Receipts.	Proportion per Cent. of Expenditure to Receipts.	Rolling Stock on 31st December 1892. Locomotives.	Carriages, Waggons, Trucks, &c. Carriages used for the Conveyance of Passengers only.	Other Vehicles attached to Passenger Trains.	Waggons of all kinds used for the Conveyance of Live Stock, Minerals, or General Merchandise.	Any other Carriages or Waggons used on the Railway, not included in the preceding Columns.	Total Number of Vehicles of all descriptions for Conveyance of Passengers, Live Stock, Ballast, &c.	Name of Company.
£	£	£	£	£		*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*Lydd.*
- -	100	20,011	22,995	2,984	87	Locomotive power and rolling stock provided by the "Manchester, Sheffield, and Lincolnshire" and "North Staffordshire" Railway Companies.						Macclesfield Committee.
												Maenclochog.
- -	257	17,959	20,659	2,700	87	6	16	5	112	3	136	Manchester and Milford.
151,529	45,076	1,266,625	2,408,127	1,141,502	53	708	934	158	16,414	- -	17,506	Manchester, Sheffield, and Lincolnshire.
- -	- -	60,145	121,820	61,675	49	—*	131	1	7	15	154	Manchester, South Junction, and Altrincham.
												Marlborough.
- -	476	51,508	100,918	49,410	51	27	39	15	1,778	9	1,841	Maryport and Carlisle.
- -	- -	1,143	959	184 Deficiency.	119	2	4	- -	- -	- -	4	Mawddwy.
												Mellis and Eye.
- -	- -	688	573	115 Deficiency.	- -	2	- -	- -	4	- -	4	Merrybent and Darlington.
- -	12,402	57,661	78,192	20,531	74	18	97	- -	-	7	104	Mersey.
- -	37	4,947	13,562	8,615	- -	Locomotive power and rolling stock supplied by the Companies working the traffic.						Methley Joint Railway.
- -	300	324,875	747,442	422,567	43	71	348	7	121	- -	476	Metropolitan.
- -	24	200,000	447,974	247,974	45	54	368	- -	27	- -	395	Metropolitan District.
- -	- -	30,787	37,941	7,154	- -	The traffic is carried in the trains of the Companies using the line.						Metropolitan and Metropolitan District City Lines and Extensions.
												Mid Kent (Bromley to St. Mary Cray).
3,253	10	5,107,278	9,258,847	4,151,569	55	2,172	2,978	1,608	110,732	- -	115,318	Midland.
												Midland and North-Eastern Committee.
- -	1,387	27,411	27,888	477	98	7	17	16	118	- -	151	Midland and South-Western Junction.
												Mid Wales.
												Milford.
												Milford Haven Dock and Railway.
												Minehead.
												Mold and Denbigh Junction.
												Much Wenlock and Severn Junction.
												Muswell Hill and Palace Railway.
												Nantwich and Market Drayton.
- -	4,626†	25,703	36,385	10,682	71	6	7	4	47	3	61	Neath and Brecon.
- -	- -	7,431	8,915	1,484	83	Locomotive power and rolling stock supplied by the "London and North-Western" Company.						Northampton and Banbury Junction.
- -	- -	11,479	3,122	8,357 Deficiency.	- -	- -	- -	- -	- -	- -	- -	North and South West Junction.
												North Cornwall.
70,382	225	3,961,747	6,683,612	2,721,865	59	1,560	2,474	901	85,293	- -	88,668	North-Eastern.
												Northern and Eastern.
4,080	6,730	338,910‡	505,731	221,807	56	104	567	106	832	211	1,216	North London.
45,289	6,071	398,553	776,245	377,692	51	138	276	117	5,281	78	5,752	North Staffordshire.
- -	- -	3,149	3,497	348	90	3	10	- -	147	- -	157	North Wales (Narrow Gauge).
												Nottingham and Grantham Railway and Canal.
												Nottingham Suburban.
												Oldbury.
- -	534	27,416	29,048	1,632	94	Provided by the "Manchester, Sheffield, and Lincolnshire" and "London and North-Western" Railway Companies.						Oldham, Ashton-under-Lyne, and Guide Bridge Junction.

† Amount paid to "Midland" Company for working expenses on traffic hauled by the Company over 20 miles of the line.

NAME OF COMPANY.	Length of Line in Miles open on 31st December 1892.	WORKING EXPENDITURE. Maintenance of Way, Works, &c.	Locomotive Power (including Stationary Engines).	Repairs and Renewals of Carriages and Waggons.	Traffic Expenses (Coaching and Merchandise).	General Charges.	Rates and Taxes.	Government Duty.	Compensation for Personal Injuries, &c.	Compensation for Damage and Loss of Goods.	Legal and Parliamentary Expenses.
	No.	£	£	£	£	£	£	£	£	£	£
Pembroke and Tenby	29	2,821	4,572	1,063	2,919	1,807	331	560	- -	21	51
Penarth Extension	*Leased to the Taff Vale.*										
Penarth Harbour, Dock, and Railway	*Leased to the Taff Vale.*										
Plymouth and Dartmoor	11*	- -	- -	- -	- -	86	11	- -	- -	- -	- -
Plymouth, Devonport, and South-Western Junction	*Worked by the London and South-Western.*										
Pontypridd, Caerphilly, and Newport	7	1,595	1,537	152	2,265	508	184	9	- -	- -	278
Portmadoc, Croesor, and Beddgelert	5	73	153†	- -	- -	75	18	- -	- -	- -	- -
Princetown	*Worked by the Great Western.*										
Ramsey and Somersham Junction	*Worked by the Great Eastern.*										
Ravenglass and Eskdale	7	263	355	8	173	71	5	31	- -	- -	27
Redruth and Chasewater	10	353	780	216	1,436	457	103	- -	- -	- -	- -
Rhondda and Swansea Bay	16	2,045	4,435	1,044	5,947	2,151	971	12	- -	43	111
Rhymney	46	14,260	44,105	7,435	23,757	6,689	7,264	137	- -	53	1,696
Ross and Monmouth	*Worked by the Great Western.*										
Rowrah and Kelton Fell Mineral	3	374	370	- -	75	- -	40	- -	- -	- -	- -
Royston and Hitchin	*Leased to the Great Northern.*										
St. Austell and Pentewan Railway, Harbour, and Dock, for the year ended 29th September 1892.	3	525	144	372	474	229	177	- -	- -	- -	- -
Salisbury Railway and Market House	*Worked by the London and South-Western.*										
Saundersfoot Railway and Harbour	4	166	145	50	54	203	32	- -	- -	- -	- -
Scarborough and Whitby	*Worked by the North-Eastern.*										
Scarborough, Bridlington, and West Riding Junction.	*Worked by the North-Eastern.*										
Severn and Wye and Severn Bridge	37	6,850	8,481	569	5,205	2,011	1,045	239	- -	8	82
Sheffield and Midland Committee	29	19,147	41,021	15,822	18,188	2,843	2,212	221	- -	836	74
Shortlands and Nunhead	*Worked by the London, Chatham, and Dover.*										
Shrewsbury and Hereford	*Leased to the Great Western and London and North-Western.*										
Shropshire Union Railways and Canal	*Leased to the London and North-Western.*										
Sidmouth	*Worked by the London and South-Western.*										
Snailbeach District	3	117	142	18	26	113	8	- -	- -	- -	- -
Somerset and Dorset, for the year ended 31st October 1892. (Including the "Bridgwater." The lines are worked by a Joint Committee of the "London and South-Western" and "Midland" Companies.)	101	25,545	54,330	13,949	31,589	5,161	2,839	391	529	964	89
South-Eastern (Including the "Cranbrook and Paddock Wood (Light)," "London and Greenwich," and "Lydd," and part of the "Croydon and Oxted" and "Woodside and South Croydon" joint lines.)	401	144,062	307,120	95,548	345,123	79,358	117,220	18,267	6,770	3,882	19,645
Southport and Cheshire Lines Extension	*Worked by the Cheshire Lines Committee.*										
South Wales Mineral, for the year ended 30th September 1892.	13	3,637	2,502	- -	4,137	643	276	- -	- -	6	- -
Southwold	9	707	793	98	870	336	41	14	- -	- -	- -
Staines and West Drayton	*Worked by the Great Western.*										
Stamford and Essendine	*Worked by the Great Northern.*										
Stocksbridge	2	324	503	- -	107	44	171	- -	- -	- -	60
Stonehouse Pool Improvement and Railway	*Worked by the London and South-Western.*										
Sutton and Willoughby	*Worked by the Great Northern.*										
Taff Vale (Including the "Aberdare," "Cowbridge and Aberthaw," "Penarth Extension," and "Penarth Harbour, Dock, and Railway.")	120	46,072	140,509	16,177	98,625	20,574	31,096	782	2,961	1,212	2,521

* Mineral railway, for the use of which a toll is paid.

† Cost of horse power.

Steamboat, Canal, and Harbour Expenses.	Miscellaneous Working Expenditure not included in the foregoing.	Total Working Expenditure.	Total Receipts, as given in the Traffic Return, No. 2.	Net Receipts.	Proportion per Cent. of Expenditure to Receipts.	Rolling Stock on 31st December 1892. Locomotives.	Carriages, Waggons, Trucks, &c. Carriages used for the Conveyance of Passengers only.	Other Vehicles attached to Passenger Trains.	Waggons of all kinds used for the Conveyance of Live Stock, Minerals, or General Merchandise.	Any other Carriages or Waggons used on the Railway, not included in the preceding Columns.	Total Number of Vehicles of all descriptions for Conveyance of Passengers, Live Stock, Ballast, &c.	Name of Company.
£	£	£	£	£		*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	
- -	149	14,294	27,539	13,245	52	7	20	4	196	5	225	Pembroke and Tenby.
												Penarth Extension.
												Penarth Harbour, Dock, and Railway.
- -	- -	97	911	814	- -	- -	- -	- -	- -	- -	- -	Plymouth and Dartmoor.
												Plymouth, Devonport, and South Western Junction.
- -	83	6,611	3,426	3,185 Deficiency.	193	- -	3	1	- -	- -	4	Pontypridd, Caerphilly, and Newport.
- -	55	374	439	65	- -	- -	- -	- -	- -	- -	- -	Portmadoc, Croesor, and Beddgelert.
												Princetown.
												Ramsey and Somersham Junction.
- -	2	935	940	5	99	2	3	1	19	- -	23	Ravenglass and Eskdale.
- -	282	3,627	3,878	251	94	3	- -	- -	90	- -	90	Redruth and Chasewater.
- -	- -	16,759	30,454	13,695	55	10	26	8	285	10	329	Rhondda and Swansea Bay.
- -	228	105,624	207,270	101,646	51	72	67	10	653	40	770	Rhymney.
												Ross and Monmouth.
- -	15	874	1,847	973	47	- -	- -	- -	- -	- -	- -	Rowrah and Kelton Fell Mineral.
												Royston and Hitchin.
- -	42	1,963	2,533	570	77	2	- -	- -	41	- -	41	St. Austell and Pentewan Railway Harbour, and Dock.
												Salisbury Railway and Market House.
63	- -	713	769	56	93	1	- -	- -	67	- -	67	Saundersfoot Railway and Harbour.
												Scarborough and Whitby.
												Scarborough, Bridlington, and West Riding Junction.
1,502	1,030	27,022	41,955	14,933	64	12	17	3	2	59	81	Severn and Wye and Severn Bridge.
- -	514	100,878	143,057	42,179	71	Locomotive power and rolling stock provided by the "Manchester, Sheffield, and Lincolnshire" and "Midland" Railway Companies.						Sheffield and Midland Committee.
												Shortlands and Nunhead.
												Shrewsbury and Hereford.
												Shropshire Union Railways and Canal.
												Sidmouth.
- -	- -	424	499	75	85	2	- -	- -	52	1	53	Snailbeach District.
- -	5,777	141,163	178,842	37,679	79	61	127	42	967	66	1,202	Somerset and Dorset.
84,683	24,052	1,245,730	2,338,244‡	1,092,514‡	53	378	1,596	564	5,109	403	7,672	South-Eastern.
												Southport and Cheshire Lines Extension.
- -	- -	11,201	11,253	52	100	6	- -	- -	10	- -	10	South Wales Mineral.
- -	- -	2,859	3,560	701	80	2	6	- -	17	3	26	Southwold.
												Staines and West Drayton.
												Stamford and Essendine.
- -	- -	1,209	2,925	1,716	41	1	- -	- -	- -	- -	- -	Stocksbridge.
												Stoonehuse Pool Improvement and Railway.
												Sutton and Willoughby.
17,303	26,936	404,773	761,789	357,016	53	190	196	54	2,362	218	2,830	Taff Vale.

‡ Exclusive of 15,715*l.* received from the London, Brighton, and South Coast Railway Company in respect of the greater use made by that Company of the lines between London and Redhill.

NAME OF COMPANY.	Length of Line in Miles open on 31st December 1892.	WORKING EXPENDITURE. Maintenance of Way, Works, &c.	Locomotive Power (including Stationary Engines).	Repairs and Renewals of Carriages and Waggons.	Traffic Expenses (Coaching and Merchandise).	General Charges.	Rates and Taxes.	Government Duty.	Compensation for Personal Injuries, &c.	Compensation for Damage and Loss of Goods.	Legal and Parliamentary Expenses.
	No.	£	£	£	£	£	£	£	£	£	£
Talyllyn, for the year ended 30th September 1892	7	264	354	79	326	166	107		- -	- -	- -
Teign Valley	*Worked by the Great Western.*										
Tenbury	*Worked by the Great Western and London and North-Western.*										
Thetford and Watton	*Worked by the Great Eastern.*										
Tiverton and North Devon	*Worked by the Great Western.*										
Tottenham and Hampstead Junction	*Worked by the Great Eastern and Midland.*										
Vale of Llangollen	*Worked by the Great Western.*										
Van	6	58	91	- -	55	91	13	- -	- -	- -	29
Victoria Station and Pimlico	*Line used by the Great Western, London and North-Western, London, Brighton, and South Coast, and London, Chatham, and Dover.*										
Wainfleet and Firsby	*Worked by the Great Northern.*										
Watton and Swaffham	*Worked by the Great Eastern.*										
Wenlock	*Worked by the Great Western.*										
West Cornwall Railway	*See under Great Western.*										
West Lancashire (Including "Liverpool, Southport, and Preston Junction.")	25	4,343	7,799	1,788	10,118	1,978	547	38	10	52	- -
West London	*Leased to the West London Extension.*										
West London Extension	*Line worked by the Great Western, London and North-Western London and South-Western, and London, Brighton, and South Coast.*										
West Riding and Grimsby	*Included in the returns of the Great Northern and Manchester, Sheffield, and Lincolnshire.*										
West Somerset	*Leased to the Great Western.*										
West Somerset Mineral	12*	714	504	69	672		29	1	- -	- -	- -
Weymouth and Portland	*Worked by the Great Western and London and South-Western.*										
Wigan Junction	*Worked by the Manchester, Sheffield, and Lincolnshire.*										
Wirral	11	2,084	7,455	1,105	3,721	1,549	458	1,007	185	- -	200
Wivenhoe and Brightlingsea	*Worked by the Great Eastern.*										
Woodside and South Croydon Joint Committee	*Included in the returns of the London, Brighton, and South Coast and South-Eastern.*										
Woodstock	3	221	1,240		461		77	3	- -	- -	103
Wrexham, Mold, and Connah's Quay (Including the "Buckley.")	28	5,501	8,143	1,135	7,667	2,933	935	23	- -	86	553
Wye Valley	*Worked by the Great Western.*										
TOTAL ENGLAND AND WALES	14,242	6,200,678	10,814,229	3,420,238	12,224,031	1,653,764	2,077,268	288,181	177,376	210,358	234,138
			57,598		1,133						

* Of this length 5 miles are open for goods and mineral traffic only.
‡ Including 16 electric locomotives.

Steamboat, Canal, and Harbour Expenses.	Miscellaneous Working Expenditure not included in the foregoing.	Total Working Expenditure.	Total Receipts, as given in the Traffic Return, No 2.	Net Receipts.	Proportion per Cent. of Expenditure to Receipts.	ROLLING STOCK on 31st December 1892. Locomotives.	Carriages, Waggons, Trucks, &c. Carriages used for the Conveyance of Passengers only.	Other Vehicles attached to Passenger Trains.	Waggons of all kinds used for the Conveyance of Live Stock, Minerals, or General Merchandise.	Any other Carriages or Waggons used on the Railway, not included in the preceding Columns.	Total Number of Vehicles of all descriptions for Conveyance of Passengers, Live Stock, Ballast, &c.	NAME OF COMPANY.
£	£	£	£	£		*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	
- -	- -	1,357	1,137	220 Deficiency.	119	2	3	1	114	- -	118	Talyllyn.
												Teign Valley.
												Tenbury.
												Thetford and Watton.
												Tiverton and North Devon.
												Tottenham and Hampstead Junction.
												Vale of Llangollen.
- -	- -	337	198	139 Deficiency.	170	2	- -	- -	- -	- -	- -	Van.
												Victoria Station and Pimlico.
												Wainfleet and Firsby.
												Watton and Swaffham.
												Wenlock.
												West Cornwall Railway.
- -	26	26,699	28,310	1,611	94	9	52	16	291	- -	359	West Lancashire.
												West London.
												West London Extension.
												West Riding and Grimsby.
												West Somerset.
- -	174	2,163	7,002	4,839	- -	2	3	- -	82	3	88	West Somerset Mineral.
												Weymouth and Portland.
												Wigan Junction.
- -	4	17,768	28,302	10,534	63	8	49	- -	53	- -	107	Wirral.
												Wivenhoe and Brightlingsea.
												Woodside and South Croydon Joint Committee.
- -	- -	2,105	942	1,163 Deficiency.	223	Locomotive power and rolling stock supplied by the Great Western Company.						Woodstock.
658	939	28,573	51,725	23,152	55	16	26	9	187	5	227	Wrexham, Mold, and Connah's Quay.
												Wye Valley.
1,550,388	355,823	39,250,277§	69,852,358†	30,602,081†	56	14,840‡	34,052	12,127	439,109	10,913	496,201	Total England and Wales.

† Exclusive of 15,715*l.* received by the South-Eastern Railway Company from the London, Brighton, and South Coast Railway Company. *See* note, page 77.
§ Exclusive of 54,926*l.* received by the North London Railway Company for working other lines. *See* note page 74.

No. 3.—Working Expenditure, Net Receipts,

The financial year of the Scotch Railway Companies, except

NAME OF COMPANY.	Length of line in Miles open on 31st January 1893.	WORKING EXPENDITURE. Maintenance of Way, Works, &c.	Locomotive Power (including Stationary Engines).	Repairs and Renewals of Carriages and Waggons.	Traffic Expenses (Coaching and Merchandise).	General Charges.	Rates and Taxes.	Government Duty.	Compensation for Personal Injuries, &c.	Compensation for Damage and Loss of Goods.	Legal and Parliamentary Expenses.
	No.	£	£	£	£	£	£	£	£	£	£
Anstruther and St. Andrews	*Worked by the North British.*										
Arbroath and Forfar	*Leased to the Caledonian.*										
Ayr and Maybole	*Leased to the Glasgow and South-Western.*										
Caledonian (Including the "Arbroath and Forfar," "Callander and Oban," "Cathcart District," "Dundee and Newtyle," "Greenock and Wemyss Bay," "Killin," "Lanarkshire and Ayrshire," "Solway Junction," part of the "Kilsyth and Bonnybridge," and half the "Glasgow and Kilmarnock" and "Glasgow and Paisley" Joint Lines.)	875	261,386	467,504	192,698	549,972	69,864	79,123	8,532	4,492	9,465	11,776
Callander and Oban	*Worked by the Caledonian.*										
Cathcart District	*Worked by the Caledonian.*										
City of Glasgow Union	7	6,213	-	-	10,069	1,992	3,825	170	-	4	148
Dundee and Newtyle	*Leased to the Caledonian.*										
Edinburgh and Bathgate	*Leased to the North British.*										
Eyemouth	*Worked by the North British.*										
Findhorn	Line closed since 30th January 1869.										
Forth and Clyde Junction	*Leased to the North British.*										
Forth Bridge	*Worked by the North British.*										
Glasgow and South-Western (Including the "Ayr and Maybole," "Kilmarnock and Troon," and half the "Glasgow and Kilmarnock" and "Glasgow and Paisley" Joint Lines.)	384	118,351	186,832	72,741	222,028	25,184	34,178	3,000	1,301	2,327	3,626
Glasgow, Yoker, and Clydebank	*Worked by the North British.*										
Great North of Scotland (Including the "Buckie Extension.")	316	29,695	55,309	13,468	56,154	9,760	11,399	1,073	1,476	377	893
Greenock and Wemyss Bay	*Worked by the Caledonian.*										
Highland, for the year ended 28th February 1893	427	49,761	74,903	20,635	61,816	11,445	12,361	2,136	1,595	1,545	1,424
Killin	*Worked by the Caledonian.*										
Kilmarnock and Troon	*Leased to the Glasgow and South-Western.*										
Kilsyth and Bonnybridge	*Worked by the Caledonian and North British.*										
Lanarkshire and Ayrshire	*Worked by the Caledonian.*										
Newport	*Leased to the North British.*										
North British (Including the "Anstruther and St. Andrews," "Edinburgh and Bathgate," "Eyemouth," "Forth and Clyde Junction," "Forth Bridge," "Glasgow, Yoker, and Clydebank," "Newport," and part of the "Kilsyth and Bonnybridge.")	1,097	323,381	475,506	183,786	531,577	69,222	69,366	8,636	8,519	9,334	10,903
Portpatrick and Wigtownshire Joint Committee	82	12,820	17,133	155	9,021	2,103	715	179	-	2	178
Solway Junction	*Leased to the Caledonian.*										
TOTAL SCOTLAND	3,188	801,607	1,277,187	483,483	1,440,637	189,570	210,967	23,726	17,383	23,054	28,948

* The rolling stock for the Portpatrick section of the line is provided by the "Caledonian" and "Glasgow and South-Western" Companies.

and Rolling Stock, SCOTLAND, in 1892.

WHEN OTHERWISE STATED, ENDED ON THE 31ST JANUARY 1893.

Steamboat, Canal, and Harbour Expenses.	Miscellaneous Working Expenditure not included in the foregoing.	Total Working Expenditure.	Total Receipts, as given in the Traffic Return, No. 2.	Net Receipts.	Proportion per Cent. of Expenditure to Receipts.	Rolling Stock on 31st January 1893. Locomotives.	Carriages, Waggons, Trucks, &c. Carriages used for the Conveyance of Passengers only.	Other Vehicles attached to Passenger Trains.	Waggons of all kinds used for the Conveyance of Live Stock, Minerals, or General Merchandise.	Any other Carriages or Waggons used on the Railway, not included in the preceding Columns.	Total Number of Vehicles of all descriptions for Conveyance of Passengers, Live Stock, Ballast, &c.	Name of Company.
£	£	£	£	£		*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	
												Anstruther and St. Andrews.
												Arbroath and Forfar.
												Ayr and Maybole.
35,504	53,743	1,744,059	3,438,034	1,693,975	51	696	1,337	441	51,882	694	54,354	Caledonian.
												Callander and Oban.
												Cathcart District.
- -	1,653	24,074	83,569	59,495	- -	The traffic is carried in the trains of the Companies using the line.						City of Glasgow Union.
												Dundee and Newtyle.
												Edinburgh and Bathgate.
												Eyemouth.
												Findhorn.
												Forth and Clyde Junction.
												Forth Bridge.
46,600	11,027	727,195	1,312,533	585,338	55	313	777	281	13,734	336	15,128	Glasgow and South-Western.
												Glasgow, Yoker, and Clydebank.
463	7,761	187,828	386,737	198,909	49	77	281	274	2,575	44	3,174	Great North of Scotland.
												Greenock and Wemyss Bay.
- -	9,079	246,700	460,969	214,269	54	100	227	111	2,544	41	2,923	Highland.
												Killin.
												Kilmarnock and Troon.
												Kilsyth and Bonnybridge.
												Lanarkshire and Ayrshire.
												Newport.
28,526	35,331	1,754,087	3,324,535	1,570,448	53	692	1,718	517	49,815	146	52,196	North British.
- -	3,928	46,234	55,554	9,320	83	2*	9	5	30	- -	44*	Portpatrick and Wigtownshire Joint Committee.
												Solway Junction.
111,093	122,522	4,730,177	9,061,931	4,331,754	52	1,880	4,349	1,629	120,580	1,261	127,819	Total Scotland.

No. 3.—Working Expenditure, Net Receipts,

NAME OF COMPANY.	Length of Line in Miles open on 31st December 1892.	WORKING EXPENDITURE.									
		Maintenance of Way, Works, &c.	Locomotive Power (including Stationary Engines).	Repairs and Renewals of Carriages and Waggons.	Traffic Expenses (Coaching and Merchandise).	General Charges.	Rates and Taxes.	Government Duty.	Compensation for Personal Injuries, &c.	Compensation for Damage and Loss of Goods.	Legal and Parliamentary Expenses.
	No.	£	£	£	£	£	£	£	£	£	£
Athenry and Ennis Junction	*Leased to the Waterford and Limerick.*										
Athenry and Tuam	*Leased to the Waterford and Limerick.*										
Ballycastle	16	835	1,113	168	739	298	58	-	10	9	-
Belfast and County Down	76	14,482	14,412	4,578	14,905	5,551	1,068	-	400	51	821
Belfast and Northern Counties (Including the "Derry Central," "Draperstown," and "Limavady and Dungiven.")	249	32,722	44,352	14,747	40,407	11,688	5,096	-	976	482	993
City of Dublin Junction	*Worked by the Dublin, Wicklow, and Wexford.*										
Clara and Banagher	*Worked by the Great Southern and Western of Ireland.*										
Clonakilty Extension	*Worked by the Cork, Bandon, and South Coast.*										
Cork and Macroom Direct	25	1,754	2,262	965	2,758	670	469	-	-	26	18
Cork, Bandon, and South Coast (Including the "Bantry Extension," "Bantry Bay Extension," "Clonakilty Extension," and "Ilen Valley.")	86	12,183	9,963	3,124	9,658	1,504	1,436	-	-	45	133
Cork, Blackrock, and Passage	6	1,017	1,955	305	1,765	799	596	-	-	-	13
Derry Central	*Worked by the Belfast and Northern Counties.*										
Donegal	32	1,946	2,021	254	1,595	929	182	-	-	50	94
Draperstown	*Worked by the Belfast and Northern Counties.*										
Dublin and Kingstown	*Leased to the Dublin, Wicklow, and Wexford.*										
Dublin, Wicklow, and Wexford (Including the "City of Dublin Junction" and "Dublin and Kingstown.")	144	27,550	35,653	12,047	34,927	9,210	10,108	-	49	138	2,710
Dundalk, Newry, and Greenore	26	2,976	2,740	632	6,020	419	195	-	-	122	13
Enniskillen, Bundoran, and Sligo	*Worked by the Great Northern of Ireland.*										
Fermoy and Lismore	*Worked by the Great Southern and Western of Ireland.*										
Great Northern of Ireland (Including the "Enniskillen, Bundoran, and Sligo.")	522	94,041	98,603	28,907	107,793	19,164	16,241	-	1,699	1,074	1,647
Great Southern and Western of Ireland (Including the "Clara and Banagher," "Fermoy and Lismore," "Kanturk and Newmarket" to 30th June,* and "Mitchelstown and Fermoy Light Railway.")	575	93,319	124,547	38,344	132,509	17,829	26,909	-	228	2,754	2,841
Ilen Valley	*Worked by the Cork, Bandon, and South Coast.*										
Kilkenny Junction	*Worked by the Waterford and Central Ireland.*										
Letterkenny	*Worked by the Londonderry and Lough Swilly.*										
Limavady and Dungiven	*Worked by the Belfast and Northern Counties.*										
Limerick and Kerry	*Worked by the Waterford and Limerick.*										
Listowel and Ballybunion	9	390	714	76	350	139	14	-	-	11	-
Londonderry and Lough Swilly (Including "Letterkenny.")	81	1,869	2,348	242	2,381	922	153	-	600	44	131

* Sold to Great Southern and Western as from 1st July 1892.

and Rolling Stock, IRELAND, in 1892.

Steamboat, Canal, and Harbour Expenses.	Miscellaneous Working Expenditure not included in the foregoing.	Total Working Expenditure.	Total Receipts, as given in the Traffic Return, No. 2.	Net Receipts.	Proportion per Cent. of Expenditure to Receipts.	Rolling Stock on 31st December 1892. Locomotives.	Carriages, Waggons, Trucks, &c. Carriages used for the Conveyance of Passengers only.	Other Vehicles attached to Passenger Trains.	Waggons of all kinds used for the Conveyance of Live Stock, Minerals, or General Merchandise.	Any other Carriages or Waggons used on the Railway, not included in the preceding Columns.	Total Number of Vehicles of all descriptions for Conveyance of Passengers, Live Stock, Ballast, &c.	Name of Company.
£	£	£	£	£		No.	No.	No.	No.	No.	No.	
												Athenry and Ennis Junction.
												Athenry and Tuam.
-	-	27	3,257	4,678	1,421	70	3	9	2	59	- -	70 Ballycastle.
-	-	627	56,895	108,578	51,683	52	26	129	19	485	36	669 Belfast and County Down.
-	-	583	152,046	261,765	109,719	58	65	185	92	1,947	52	2,276 Belfast and Northern Counties.
												City of Dublin Junction.
												Clara and Banagher.
												Clonakilty Extension.
-	-	- -	8,922	14,460	5,538	62	4	13	4	83	- -	100 Cork and Macroom Direct.
-	-	554	38,600	70,881	32,281	54	16	38	11	301	6	356 Cork, Bandon, and South Coast.
	8,223	141	14,814	19,341	4,527	77	2	14	- -	4	- -	18 Cork, Blackrock, and Passage
												Derry Central.
-	-	658	7,729	12,718	4,989	61	3	16	7	70	- -	93 Donegal.
												Draperstown.
												Dublin and Kingstown.
-	-	1,411	133,808	263,615	129,807	51	51	206	50	641	22	919 Dublin, Wicklow, and Wexford.
-	-	28	13,145	13,910	765	95	5	12	10	214	7	243 Dundalk, Newry, and Greenore.
												Enniskillen, Bundoran, and Sligo.
												Fermoy and Lismore.
-	-	328	369,497	734,079	364,582	50	137	313	239	3,502	130	4,184 Great Northern of Ireland.
-	-	2,853	442,133	812,753	370,620	54	178	313	241	4,001	- -	4,555 Great Southern and Western of Ireland.
												Ilen Valley.
												Kilkenny Junction.
												Letterkenny.
												Limavady and Dungiven.
												Limerick and Kerry.
-	-	88	1,782	1,941	159	92	3	8	8	28	2	46 Listowel and Ballybunion.
-	-	- -	8,690	16,187	7,497	54	6	18	8	112	- -	138 Londonderry and Lough Swilly.

NAME OF COMPANY.	Length of Line in Miles open on 31st December 1892.	WORKING EXPENDITURE. Maintenance of Way, Works, &c.	Locomotive Power (including Stationary Engines).	Repairs and Renewals of Carriages and Waggons.	Traffic Expenses (Coaching and Merchandise).	General Charges.	Rates and Taxes.	Government Duty.	Compensation for Personal Injuries, &c.	Compensation for Damage and Loss of Goods.	Legal and Parliamentary Expenses.
	No.	£	£	£	£	£	£	£	£	£	£
Midland Great Western of Ireland (including the "Ballinrobe and Claremorris" and "Loughrea and Attymon" Light Railways.)	454	53,749	80,116	17,491	72,259	12,162	10,402	- -	209	787	4,131
Rathkeale and Newcastle Junction	*Worked by the Waterford and Limerick.*										
Sligo, Leitrim, and Northern Counties	43	3,768	4,313	497	4,180	2,177	210	- -	- -	- -	112
Southern	*Worked by the Waterford and Limerick.*										
Tralee and Fenit	*Worked by the Waterford and Limerick.*										
Waterford and Central Ireland, for the year ended 29th September 1892. (Including the "Central Ireland" and "Kilkenny Junction.")	67	7,348	5,471	2,470	5,029	2,281	1,004	- -	- -	29	30
Waterford and Limerick (Including the "Athenry and Ennis Junction," "Athenry and Tuam," "Limerick and Kerry," "Rathkeale and Newcastle Junction," "Southern," and "Tralee and Fenit.")	279	33,834	29,022	9,251	31,891	8,501	5,442	- -	50	1,644	2,592
Waterford and Tramore	7	1,426	1,217	256	605	397	106	- -	- -	- -	- -
Waterford and Wexford	9	Line practically closed for traffic.									
Waterford, Dungarvan, and Lismore	43	5,428	3,002	1,023	3,156	808	177	- -	- -	5	26
TOTAL	2,690	390,637	463,829	135,377	472,927	95,448	79,866	- -	4,221	7,271	16,305

LIGHT RAILWAYS AUTHORISED UNDER

Ballinsicarthy and Timoleague Junction	*See* Timoleague and Courtmacsherry Extension, &c.										
Ballinrobe and Claremorris	*Worked by the Midland Great Western of Ireland.*										
Bessbrook and Newry Tramway	3	228	217	221	286	400	22	- -	- -	3	- -
Carrickfergus Harbour Junction	1	48	46	- -	3	48	9	- -	- -	- -	101
Cavan, Leitrim, and Roscommon Light Railway and Tramway, for the year ended 1st November 1892.	48	1,931	2,622	533	2,262	610	131	- -	- -	23	57
Clogher Valley Tramway, for the year ended 30th September 1892.	37	1,207	2,359	338	1,287	339	53	- -	22	17	36
Cork and Muskerry	18	1,412	1,898	375	1,489	682	40	- -	- -	7	3
Loughrea and Attymon	*Worked by the Midland Great Western of Ireland.*										
Mitchelstown and Fermoy	*Worked by the Great Southern and Western of Ireland.*										
Schull and Skibbereen	15	1,155	978	152	489	365	19	- -	- -	- -	7
South Clare (Kilkee and Cappa section)†	10	1	129	8	321	41	- -	- -	- -	4	23
Timoleague and Courtmacsherry Extension and Ballinsicarthy and Timoleague Junction.	9	417	446	67	133	345	54	- -	- -	10	13
Tralee and Dingle, for the year ended 30th November 1892.	37	2,106	2,927	221	1,201	679	58	- -	- -	77	56
West Clare, for the year ended 31st October 1892	27	2,145	2,349	372	2,185	983	71	- -	- -	- -	76
TOTAL LIGHT RAILWAYS	205	10,650	13,971	2,287	9,959	4,992	457	- -	22	137	372
GRAND TOTAL, IRELAND	2,895	401,287	477,800	137,664	482,886	100,440	80,323	- -	4,243	7,408	16,677

* Electro-motive carriages.

† For the period from the opening of the line (on 13th August) to 31st October 1892.

Steamboat, Canal, and Harbour Expenses.	Miscellaneous Working Expenditure not included in the foregoing.	Total Working Expenditure.	Total Receipts, as given in the Traffic Returns, No. 2.	Net Receipts.	Proportion per Cent. of Expenditure to Receipts.	Rolling Stock on 31st December 1892. Locomotives.	Carriages, Waggons, Trucks, &c. Carriages used for the Conveyance of Passengers only.	Other Vehicles attached to Passenger Trains.	Waggons of all kinds used for the Conveyance of Live Stock, Minerals, or General Merchandise.	Any other Carriages or Waggons used on the Railway, not included in the preceding Columns.	Total Number of Vehicles of all descriptions for Conveyance of Passengers, Live Stock, Ballast, &c.	Name of Company.
£	£	£	£	£		*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	
3,129	- -	256,435	515,336	258,901	50	114	172	200	2,372	108	2,852	Midland Great Western of Ireland
												Rathkeale and Newcastle Junction.
- -	- -	15,257	15,969	712	96	5	15	3	102	1	121	Sligo, Leitrim, and Northern Counties.
												Southern.
												Tralee and Fenit.
- -		1,332	24,994	46,511	21,517	54	10	28	17	191	- -	236	Waterford and Central Ireland.
- -		1,708	123,995	200,853	76,858	62	42	76	43	1,086	28	1,233	Waterford and Limerick.
- -	- -	4,007	6,285	2,278	64	4	15	3	8	2	28	Waterford and Tramore.
												Waterford and Wexford.
- -		3,501	17,126	16,334	792 Deficiency.	105		18	3	142	- -	163	Waterford, Dungarvan, and Lismore.
13,352	13,899	1,693,132	3,136,194	1,443,062	54	681	1,598	960	15,348	394	18,300	Total.

THE TRAMWAYS (IRELAND) ACTS, 1860 to 1883.

												Ballinasloe and Timoleague Junction.
												Ballinrobe and Claremorris.
- -	37	1,414	1,668	254	85	2*	1	- -	24	2	27	Bessbrook and Newry Tramway.
- -	- -	255	116	139 Deficiency.	- -	- -	- -	- -	- -	- -	- -	Carrickfergus Harbour Junction.
- -	139	8,308	7,593	715 Deficiency.	109	8	12	10	107	6	135	Cavan, Leitrim, and Roscommon Light Railway and Tramway.
- -	86	6,244	6,472	228	96	6	13	6	70	2	91	Clogher Valley Tramway.
- -	543	6,449	8,695	2,246	74	4	17	3	44	- -	64	Cork and Muskerry.
												Loughrea and Attymon.
												Mitchelstown and Fermoy.
- -	33	3,198	2,049	1,149 Deficiency.	156	4	6	4	24	21	55	Schull and Skibbereen
- -	- -	523	731	208	72	3	6	- -	16	- -	22	South Clare.
- -	694‡	2,479	1,107	1,372 Deficiency.	- -	2	4	- -	20	- -	24	Timoleague and Courtmacsherry Extension and Ballinasloe and Timoleague Junction.
- -	- -	7,328	4,715	2,613 Deficiency.	- -	5	12	- -	39	- -	51	Tralee and Dingle.
- -	- -	8,181	8,411	230	97	4	9	2	55	12	78	West Clare.
- -	1,532	44,379	41,557	2,822 Deficiency.	107	38	80	25	399	43	547	Total Light Railways.
13,352	15,431	1,737,511	3,177,751	1,440,240	55	719	1,678	985	15,747	437	18,847	Grand Total, Ireland.

‡ Including 655*l.* for hire and part purchase of rolling stock.

RAILWAY RETURNS.—1892.

APPENDIX A.—SEASON AND PERIODICAL TICKETS.

RECEIPTS of RAILWAY COMPANIES in ENGLAND and WALES, SCOTLAND, and IRELAND from FIRST, SECOND, and THIRD CLASS (including Workmen's Weekly Tickets), SEASON and PERIODICAL TICKETS issued in 1892.

NOTE.—The Board of Trade are indebted to the Railway Companies for having voluntarily supplied the information given in the following Table.

APPENDIX A.—RECEIPTS from SEASON and PERIODICAL TICKETS in 1892.—ENGLAND AND WALES.

Note.—The Returns for worked or leased lines are included in those of the working Companies.

Name of Company.	Receipts from Season and Periodical Tickets, including Workmen's Weekly Tickets.			
	First Class.	Second Class.	Third Class (including Workmen's Weekly Tickets).	Total.
	£	£	£	£
Barry	49	225	349	623
Bishop's Castle	—	—	—	—
Brecon and Merthyr Tydfil Junction	41	103	38	182
Cambrian (Including leased and worked lines, for names of which see p. 48.)	261	745	235	1,241
Cheshire Lines Committee (Including leased and worked lines, for names of which see p. 48.)	18,388	15	19,403	37,806
City and South London	—	—	*1,215	*1,215
Cleator and Workington Junction	55	31	34	120
Cockermouth, Keswick, and Penrith	102	166	500	768
Colne Valley and Halstead	20	29	11	60
Corris	—	—	76	76
Dover and Deal (Joint Committee)	Cannot be given.			
Easingwold	5	—	10	15
East and West Junction and Stratford-upon-Avon, Towcester, and Midland Junction Joint Committee.	10	9	33	52
Eastern and Midlands	*See* note, page iii.			
East London (Joint Committee)	196	488	16	700
Festiniog	24	68	1,260	1,352
Furness	1,157	1,216	1,392	3,765
Garstang and Knot End	—	—	—	—
Glyn Valley Tramway	—	—	10	10
Golden Valley	—	—	—	—
Great Eastern (Including leased and worked lines, for names of which see p. 50.)	72,741	148,738	495	221,974
Great Marlow	18	73	—	91
Great Northern (Including leased and worked lines, for names of which see p. 50.)	41,615	71,343	29,302	142,260
Great Western (Including leased and worked lines, for names of which see p. 50.)	43,196	65,712	7,625	116,533
Hull, Barnsley, and West Riding Junction Railway and Dock	147	—	355	502
Isle of Wight (Including leased and worked lines, for names of which see p. 52.)	156	342	96	594
Isle of Wight Central (Including leased and worked lines, for names of which see p. 52.)	339	694	135	1,168
Lancashire and Yorkshire (Including leased and worked lines, for names of which see p. 52.)	77,248	29,988	105,529	212,765
Liskeard and Caradon	—	5	—	5
London and North-Western (Including leased and worked lines, for names of which see p. 52.)	95,868	45,905	92,962	234,735

* Only one class of ticket issued.

APPENDIX A.—RECEIPTS from SEASON and PERIODICAL TICKETS in 1892.—ENGLAND and WALES—*continued.*

NAME OF COMPANY.	RECEIPTS from SEASON and PERIODICAL TICKETS, including WORKMEN'S WEEKLY TICKETS.			
	First Class.	Second Class.	Third Class (including Workmen's Weekly Tickets).	TOTAL.
	£	£	£	£
London and South-Western (Including leased and worked lines, for names of which see p. 52.)	94,304	75,768	27,934	198,006
London, Brighton, and South Coast (Including leased and worked lines, for names of which see p. 52.)	114,085	108,544	2,019	224,648
London, Chatham, and Dover (Including leased and worked lines, for names of which see p. 52.)	43,801	55,848	918	100,567
Londonderry (Seaham to Sunderland)	40	144	—	184
London, Tilbury, and Southend	4,534	11,323	—	15,857
Macclesfield Committee	117	29	225	371
Manchester and Milford	—	57	—	57
Manchester, Sheffield, and Lincolnshire (Including leased and worked lines, for names of which see p. 54.)	12,259	277	18,364	30,900
Manchester, South Junction, and Altrincham	9,816	4,280	14,084	28,180
Maryport and Carlisle	355	399	1,104	1,858
Mawddwy	—	7	—	7
Mersey	3,328	4,578	61	7,967
Methley Joint	22	—	64	86
Metropolitan (Including leased and worked lines, for names of which see p. 54.)	21,834	39,478	4,549	65,861
Metropolitan District (Including leased and worked lines, for names of which see p. 54.)	16,796	25,346	1,008	43,150
Metropolitan and Metropolitan District City Lines and Extensions	1	13	—	14
Midland (Including leased and worked lines, for names of which see p. 54.)	64,321	—	94,142	158,463
Midland and South-Western Junction	26	34	51	111
Neath and Brecon	—	3	343	346
Northampton and Banbury Junction	—	—	15	15
North and South Western Junction	—	13	—	13
North-Eastern (Including leased and worked lines, for names of which see p. 54.)	33,644	12,912	71,421	117,977
North London	19,503	33,196	20,131	72,830
North Staffordshire (Including leased and worked lines, for names of which see p. 54.)	3,362	5,148	6,645	15,155
North Wales (narrow gauge)	5	3	426	434
Oldham, Ashton-under-Lyne, and Guide Bridge Junction	249	59	1,885	2,193
Pembroke and Tenby	2	113	15	130
Pontypridd, Caerphilly, and Newport	—	—	—	—
Ravenglass and Eskdale	—	—	20	20
Rhondda and Swansea Bay	9	10	1,015	1,034
Rhymney	348	362	536	1,246
Severn and Wye and Severn Bridge	11	—	37	48
Sheffield and Midland Committee	1,278	89	3,501	4,868
Somerset and Dorset	199	611	311	1,121
South-Eastern (Including leased and worked lines, for names of which see p. 56.)	76,242	52,598	26,662	155,502
Southwold	10	—	23	33

APPENDIX A.—RECEIPTS from SEASON and PERIODICAL TICKETS in 1892.—ENGLAND and WALES—*continued.*

NAME OF COMPANY.	RECEIPTS from SEASON and PERIODICAL TICKETS, including WORKMEN'S WEEKLY TICKETS.			
	First Class.	Second Class.	Third Class (including Workmen's Weekly Tickets).	TOTAL.
	£	£	£	£
Taff Vale (Including leased and worked lines, for names of which see p. 56.)	2,224	3,005	4,398	9,627
Talyllyn	—	—	—	—
West Lancashire	171	36	600	807
West Somerset Mineral	—	—	—	—
Wirral	1,146	2,327	345	3,818
Woodstock	Cannot be given.			
Wrexham, Mold, and Connah's Quay (Including leased and worked lines, for names of which see p. 58.)	—	—	—	—
Total England and Wales for Companies making Returns	875,678	802,505	563,933	2,242,116
Add Receipts for Periodical Tickets of all Classes for Companies not making Returns	—	—	—	138
TOTAL ENGLAND AND WALES	—	—	—	2,242,254

Note.—The following Companies have given the number of equivalent annual tickets of each class, as well as the receipts therefrom.

NAME OF COMPANY.	First Class.	Second Class.	Third Class (including Workmen's Weekly Tickets).	TOTAL.
	No.	No.	No.	No.
Barry	6	40	79	125
Isle of Wight	17	70	26	113
Manchester, South Junction, and Altrincham	1,210	698	2,884	4,792
North Staffordshire	344	868	2,041	3,253
Rhymney	41	52	135	228
Somerset and Dorset	23	79	124	226

APPENDIX A.—RECEIPTS from SEASON and PERIODICAL TICKETS in 1892.—SCOTLAND.

Name of Company.	Receipts from Season and Periodical Tickets, including Workmen's Weekly Tickets.			
	First Class.	Second Class.	Third Class (including Workmen's Weekly Tickets).	Total.
	£	£	£	£
Caledonian (Including leased and worked lines, for names of which see p. 60.)	43,429	8	42,275	85,712
City of Glasgow Union	1,908	—	1,756	3,664
Glasgow and South-Western (Including leased and worked lines, for names of which see p. 60.)	15,574	—	21,091	36,665
Great North of Scotland	6,806	—	6,953	13,759
Highland	3,634	—	2,653	6,287
North British (Including leased and worked lines, for names of which see p. 60.)	58,593	20	29,813	88,426
Portpatrick and Wigtownshire Joint Committee	79	—	89	168
Total Scotland	130,023	28	104,630	234,681

Note.—The following Companies have given the number of equivalent annual tickets of each class, as well as the receipts therefrom.

Name of Company.	First Class.	Second Class.	Third Class (including Workmen's Weekly Tickets).	Total.
	No.	No.	No.	No.
Caledonian	7,224	2	14,031	21,257
Glasgow and South-Western	1,812	—	3,682	5,494

APPENDIX A.—RECEIPTS from SEASON and PERIODICAL TICKETS in 1892.—IRELAND.

Name of Company.	Receipts from Season and Periodical Tickets, including Workmen's Weekly Tickets.			
	First Class.	Second Class.	Third Class (including Workmen's Weekly Tickets).	Total.
	£	£	£	£
Ballycastle	9	8	9	26
Belfast and County Down	4,472	6,206	—	10,678
Belfast and Northern Counties (Including leased and worked lines, for names of which see p. 62.)	2,240	3,945	239	6,424
Cork and Macroom Direct	8	71	52	131
Cork, Bandon, and South Coast (Including leased and worked lines, for names of which see p. 62.)	25	323	184	532
Cork, Blackrock, and Passage	Cannot be given.			
Donegal	4	18	63	85
Dublin, Wicklow, and Wexford (Including leased and worked lines, for names of which see p. 62.)	9,419	14,606	—	24,025
Dundalk, Newry, and Greenore	11	15	25	51
Great Northern of Ireland (Including leased and worked lines, for names of which see p. 62.)	2,724	5,579	597	8,900
Great Southern and Western of Ireland (Including leased and worked lines, for names of which see p. 62.)	1,372	2,040	337	3,749
Listowel and Ballybunion	6	—	28	34
Londonderry and Lough Swilly (Including leased and worked lines, for names of which see p. 62.)	94	154	80	328
Midland Great Western of Ireland (Including leased and worked lines, for names of which see p. 64.)	469	985	102	1,556
Sligo, Leitrim, and Northern Counties	3	19	64	86
Waterford and Central Ireland (Including leased and worked lines, for names of which see p. 64.)	30	299	392	721
Waterford and Limerick (Including leased and worked lines, for names of which see p. 64.)	Cannot be given.			
Waterford and Tramore	573	—	21	594
Waterford and Wexford *	—	—	—	—
Waterford, Dungarvan, and Lismore	28	17	1	46
Total	21,487	34,285	2,194	57,966
Light Railways.				
Bessbrook and Newry Tramway	—	—	26	26
Cavan, Leitrim, and Roscommon Light Railway and Tramway	14	—	22	36
Clogher Valley Tramway	—	—	31	31
Cork and Muskerry Light, Limited	62	—	151	213
Schull and Skibbereen Tramway	—	—	—	—
South Clare	—	—	—	—
Timoleague and Courtmacsherry Extension and Ballinascarthy and Timoleague Junction	—	—	—	—
Tralee and Dingle	—	—	—	—
West Clare	—	—	6	6
Total Ireland for Companies making Returns	21,563	34,285	2,430	58,278
Add Total Receipts for Periodical Tickets of all Classes for Companies not making Returns	—	—	—	2,739
Grand Total Ireland	—	—	—	61,017

* Line closed for traffic.

RAILWAY RATES AND CHARGES.

CORRESPONDENCE

BETWEEN THE

BOARD OF TRADE

AND THE

RAILWAY COMPANIES' ASSOCIATION AND VARIOUS RAILWAY COMPANIES

WITH REGARD TO THE

REVISED RATES CHARGED FOR THE CONVEYANCE OF MERCHANDISE TRAFFIC.

January 2nd to May 10th, 1893.

Presented to both Houses of Parliament by Command of Her Majesty.

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CORRESPONDENCE.

(1.)

BOARD OF TRADE to RAILWAY COMPANIES' ASSOCIATION.

Board of Trade (Railway Department),
London, S.W., January 2, 1893.

SIR,

I AM desired by the Board of Trade to state, for the information of the Railway Companies' Association, that a large number of complaints have reached them with regard to increases in the new rates adopted by Railway Companies as from the 1st of January and of which notice was given by the issue of the rate books on the 16th of December last.

I am to enclose a copy of a communication on this subject which has been received from Sir Alfred Hickman, M.P., representing many trading bodies in the Midland Counties.

Many other complaints emanating from Members of Parliament and others interested in the trade in various articles of commerce have been received from different parts of the country, among others, complaints of increase of rates for the conveyance of milk, grain, hay, and other agricultural produce, firewood, live stock, coal and coke, iron and hardware.

The Board of Trade are aware of the great labour involved in the preparation of the new rate books, and of the difficulty of re-adjustment of many millions of rates, many of them over several lines of railway, and they are convinced that the new Acts fixing the maximum rates chargeable by the Companies involve in many instances, not only a reduction of the statutory powers hitherto enjoyed by the Companies, but a lowering of many important rates heretofore charged under those powers. It is possible that the officers employed by the Companies in fixing the new rates under the new maxima should have sought for opportunities of compensation for those losses by the raising of certain rates where, in their opinion, such increase seems reasonable and to be sustained.

The Board of Trade have not been able to examine into the complaints which have reached them, or to ascertain how far the circumstances of the old actual rates have been compared by the complainants with the circumstances of the new actual rates.

But the Association must be aware that if those increases are widespread or far-reaching in their effect, a profound feeling of dissatisfaction may be expected to be produced among the traders and trading communities of the country.

I am therefore to ask for the observations of the Association with regard to the present position of the question, and especially whether the rates at present entered in the rate books are to be taken as an expression of the deliberate opinion of the Companies in regard to the rates which are in the future to be charged, or whether a re-consideration of the several circumstances attending them may be expected at an early date.

I am, &c.
(Signed) COURTENAY BOYLE.

The Secretary,
Railway Companies' Association.

(2.)

RAILWAY COMPANIES' ASSOCIATION to BOARD OF TRADE.

General Manager's Office,
King's Cross Station, London, N.,
January 7, 1893.

SIR,

I HAVE, as desired by you, brought your letter of the 2nd January before the Railway Association.

In reply to your inquiry, I am authorised to inform you that the rates at present entered in the rate books are not to be taken as necessarily final, and any rate which is found to be open to serious objection will be reconsidered.

The Companies have, as you are aware, carried out the revision under great difficulties with regard to time, and in order to satisfy the requirements of the Act they have been forced, contrary to their own wish and judgment, to simplify the revision by cancelling a large number of special rates, thus leaving certain descriptions of traffic nominally, but in many cases temporarily only, subject to the "class" rates.

This explains many of the complaints submitted to the Board of Trade, but it is, and has been, the intention of the Companies, after the class rates had been issued, to provide special rates whenever reasonably required, as quickly as they could be adjusted and put in force, and the goods staff have been, and for some considerable time will be, occupied in this work.

The Companies have recognised with regret that a considerable disturbance of the existing course of business between them and their customers, based upon the experience gained during the past 50 years, was an inevitable consequence of the compulsory revision of their rates and arrangements. They are anxious to minimise this disturbance as far as lies in their power, and the Association have appointed a committee of general managers to meet the traders and discuss any grievances alleged to have arisen from the new rates and arrangements.

The Companies do not believe that the revision, when fully carried out, will be found to justify any "profound feeling of dissatisfaction among the traders "of the country."

It was to be expected that attention would be called to instances of increased rates consequent on the revision, and selections of such have been published, but the reductions enforced by the new codes have, apparently, escaped notice.

Many millions of rates have been subjected to revision, and any selections of increases or decreases would not fairly represent the results of the enormous and costly labours imposed on Railway Companies.

The Companies, however, hope that it will not be forgotten that they are themselves large traders, dependent for their dividends upon so adjusting their rates as to attract the greatest amount of profitable business.

The Companies believe that many of the alleged grievances will disappear before the end of February, by which date the completed scales of rates will be inserted in the rate books, and they are satisfied that the course they propose of immediate investigation of complaints and the gradual completion of the revision by the goods managers, concurrently with meetings for full discussion between the traders and the general managers, will best tend towards a settlement of differences, and, with this view, I shall be glad to receive for consideration copies of any complaints which may be made to the Board of Trade.

I am, &c.
(Signed) H. OAKLEY,
Honorary Secretary,
Railway Association.

Sir Courtenay Boyle, K.C.B.,
Board of Trade,
Whitehall, S.W.

(3.)

BOARD OF TRADE to RAILWAY COMPANIES' ASSOCIATION.

Railway Department, Board of Trade,
February 28, 1893.

SIR,

I AM desired by the President of the Board of Trade, in view of a meeting of the Railway Association which he is informed is to be held to-day at 3 o'clock to submit to you the following observations in regard to the present position of the question of railway rates, and to invite the earnest attention thereto of the Association.

Since the date of my first letter to Sir Henry Oakley of the 2nd January on the subject and his reply thereto the Board of Trade have continued to receive complaints of the increases in the rates entered in the rate books on the 1st January.

These complaints have reached the Board of Trade from all parts of the United Kingdom; they have come from all classes of traders—from traders

doing a large amount of business with Railway Companies as well as from traders dealing in small consignments and ill able, save with the assistance of a State Department or through the efforts of individual Members of Parliament, to support their contentions to the full extent of their merits before the Railway Companies themselves, or, in the last resort, before the courts of law.

These complaints have been supported by municipal bodies and trading associations of all sorts and kinds. They were pressed upon the attention of the President of the Board of Trade by a deputation of Members of Parliament of extraordinary magnitude representing all shades of political opinion, and by other influential deputations representing widely divergent views and interests, and this, although he has done his best to dissuade gentlemen living at a great distance from London from putting themselves to the trouble and expense of coming to the Board of Trade for the purpose of personally expressing their opinions.

The complaints form the subject of almost daily questions in Parliament, and, over and above these means of communication, representations are made to the President and the Board of Trade which show a feeling of widespread dissatisfaction, the full effect of which it is difficult to foresee.

It is impossible for me in this letter to analyse these complaints, but, as you are aware copies of a vast number of such communications received in writing by the Board of Trade have been forwarded to Sir Henry Oakley for the consideration of the Committee of Managers who are dealing with the question.

I may, however, say that they extend to the rates for nearly all classes of merchandise, and they are especially emphatic as regards rates for agricultural and dairy produce—an industry which is quite unable to bear any additional burden at the present time.

Not only do they affect the money charges, but they bear upon the changes made in the conditions of traffic, which, so far as the Board of Trade have at present been able to examine them, are all against the interest of the trader. Without attempting to make an exhaustive list of these I may refer to such points as—

The omission to state the rebates allowed in a collection and delivery rate when either collection or delivery or both are not performed by the Railway Company:

The condition that the agreement for conveyance at owner's risk rate is to be stamped by the trader, and that the trader is to be asked to agree to an amount of exemption from liability on behalf of the Company which is not reasonable in itself, and the legality of which is open to serious doubt:

The obligation proposed to be imposed upon consignors of milk to mark their cans on the inside, and to allow of an examination in transit which can only be performed at the risk of injury to the milk:

The withdrawal of the concession formerly made that drovers have free passes when accompanying live stock in transit, this withdrawal not even being accompanied as a rule by the provision of third class accommodation for the persons in charge of the stock:

The impossibility of distinguishing in the rates set out in the rate books between a rate which is from station to station and a rate which is from station to siding or siding to siding, and the impossibility of ascertaining whether station terminals are or are not included in the rate, without the provision of terminal accommodation at both ends of the journey:

The adoption of the divisor 113 instead of that of 144 in the measurement of timber notwithstanding the alleged fact that the Companies purchase timber measured with a divisor of 144.

Upon these, and other matters too numerous to set out here, traders complain of the alteration of the conditions of traffic.

They also complain of a material alteration in the percentage of reduction allowed when traffic is carried at owner's risk rates, and, in brief, they complain that, generally speaking, under the various heads of carriage they have to pay far more for the transit of goods consigned to Railway Companies than they had to pay before the several Railway Rates and Charges Confirmation Acts came into force on the 1st of January.

The Board of Trade were assured by several of the Railway Companies concerned that the operation of those Acts would be, in very many instances,

to reduce not only the existing powers of charge, but actual rates in force before the passing of those Acts.

But up to the present no instance has been proved to the satisfaction of the Board of Trade in which there has been any material reduction of rate in consequence of the action of the Legislature. The Board of Trade have no material by which they themselves could combat the allegations that the increase of rates has been serious while the reductions have been inconsiderable in their effect.

The Board of Trade are fully aware that revisions have been made of the rates published in the rate books on the 1st of January, and, in a limited number of instances, traders have expressed themselves satisfied with those revisions and contented with the reductions which have been made by the companies, but the President of the Board of Trade is unable to satisfy himself that the revisions which have already taken place would not result in a material increase of the rates which were charged in 1892, and I am to state that, in the opinion of the Board of Trade, it will be impossible to remove the almost universal dissatisfaction which prevails unless there is at least a general return to the basis of the 1892 rates, except in those cases where they have been compulsorily reduced by the operation of the several statutes.

I am, therefore directed by Mr. Mundella to earnestly press upon you the importance of making as speedily as possible such concessions as may satisfy the reasonable requirements of trading communities of the United Kingdom, for unless this is done, and done as speedily as circumstances will permit, legislation to accomplish this purpose will become inevitable.

I am, &c.

The Chairman,
The Railway Association.

(Signed) COURTENAY BOYLE.

(4.)

RAILWAY COMPANIES' ASSOCIATION to BOARD OF TRADE.

King's Cross Station, London, N.,
March 1, 1893.

Sir,

I am directed by the Railway Companies' Association to inform you that your letter of the 28th ultimo to their Chairman received their very full and careful consideration yesterday.

The following resolutions were adopted, which I was instructed to communicate to you:—

Resolved: That the Companies are unable to accept, without qualification, the suggestion of the President that the Companies should return to the rates of 1892. It is fair that the reductions which have been compulsorily enforced should be taken into account, but the Companies will (adopting the words of the Board of Trade letter) make, as speedily as possible, such concessions as may satisfy the reasonable requirements of the traders; and

Resolved: That it be referred to each Company to carry out the spirit of this resolution, each Company being at liberty to make such public announcement as it may think desirable.

The Directors feel that they need not further impress upon the Board of Trade the difficulty the Companies are under with respect to time. What it is possible to do by close and continuous attention to the subject will be done, and its effect will week by week become more apparent.

Without anticipating the action which may be taken by individual Companies to carry out the above resolutions, I believe you may expect further and early communications from some.

As regards the conditions of consignment and risk notes, to which exception is taken, the only object of the Companies can be to arrive at a fair and reasonable system, which shall be easy of comprehension and save litigation. It is obvious that conditions which are unreasonable would afford no protection to the Companies, and defeat their object. It is suggested that two or three gentlemen of skill and experience in these questions might be appointed by the Mansion House Association to meet representatives of the Companies, and endeavour to agree upon satisfactory forms for general adoption.

The Association have duly noted your observations that the alleged reductions of rates have not been proved in detail, and statements are being prepared on this subject, which shall very shortly be supplied to you.

I am, &c.

(Signed) H. OAKLEY,
Secretary,
Railway Companies' Association.

Sir Courtenay Boyle, K.C.B.
(Railway Department),
Board of Trade, S.W.

(5.)

RAILWAY COMPANIES' ASSOCIATION to BOARD OF TRADE.

King's Cross Station, London, N.
April 12, 1893.

SIR,

IN accordance with the request of the President of the Board of Trade to be informed of the progress made by the Railway Companies in the revision of rates, I beg to submit the following statement:—

The work of revision has been continuously carried on by the officers of the Companies upon the basis of the assurances contained in the letters addressed by several chairmen to the President in the beginning of March.

Dealing first with the question of classification, I beg to enclose a statement which has been issued by the Railway Companies to their respective stations, showing the changes in classification which have been adopted, and which you will observe are very numerous and important. This statement is a consolidation, with additions, of several previously issued.

I believe I am justified in stating that this revision has, so far as classification is concerned, removed any grounds of dissatisfaction on the part of traders, except such as were also common to the classification of 1892.

The conditions under which traffic is carried have also been reconsidered in great detail, and with the fullest desire to meet all reasonable objections.

Without professing to give an exhaustive list, I may state that—

The "owners' risk" conditions and allowances have been revised and those of 1892 generally restored.

The conditions under which timber was carried have been reinstated.

The minimum fractional weight charge applicable to large consignments has been modified.

The "smalls" scale for consignments below three cwt. has been reduced.

A considerable reduction has been made in the scale for empties.

I cannot claim for this portion of the work, as for classification, that it has been wholly completed, but the outstanding questions, which are still receiving attention, are of comparatively minor importance, and will, I hope, be satisfactorily dealt with as time permits.

With respect to rates, the Companies have endeavoured to carry out in the most prompt and effective manner the assurances given by several of the Chairmen to the President of the Board of Trade that no increased rates should be maintained which would interfere with trade or agriculture, and that no increase exceeding five per cent. should (unless under exceptional circumstances) be permitted.

The Companies believe that the instructions they have given with this object have proved effectual, and that the only question upon rates (unless under exceptional circumstances) now remaining open between any trader and any Company is whether, when rates have been increased by not more than five per cent., such increases should be maintained, and this discussion, which is necessarily one of detail dealing with the circumstances of each case, is proceeding.

To prevent misunderstanding, I should explain that time has not permitted of the revised rates being all inserted in the rate books, but this work will be completed as soon as possible.

Upon the whole, the Companies believe that the general dissatisfaction which found expression in the month of January last has been now to a great extent, if not altogether, removed, and although many questions yet remain to be dealt with, the great bulk of the colossal work of revision under the Acts of 1891 and 1892 has now been accomplished.

I am, &c.

To the Assistant Secretary,
(Railway Department),
Board of Trade, S.W.

(Signed) H. OAKLEY,
Honorary Secretary.

[Enclosure.]

List of Articles which are charged at Rates other than the Ordinary Class Rates.

Applicable until 31*st December* 1893.

Article.	To be charged at Rates as for Class
Agalite	C
Agricultural Engines, Machines, &c.—(*see* page 24).	
Agricultural Seeds	2*y*
Alabastine—(as Colours, *in casks or iron drums, or in tins, packed in cases*).	
Ale and Porter Finings, *in casks*—(as Ale and Porter, *in casks*).	
Almanack Frames, *in pieces, packed in cases*	3
Almanacks (*Chromo-Litho, Presentation*)	3
Aloes	3
Animals, *Live, in packages* (*including Pigs or Sheep in a crate, or a Calf in a sack, and others not elsewhere specified*) Minimum charge as for 2½ cwts. per package.	4
Anti-Burton—(as Ale and Porter).	
Antiseptic Mixture, *in casks or iron drums*	2
Aquaria, *Glass*	5*z*
Asbestos, *crude*	C
„ *ground in casks or bags*	1
Asphalte Apparatus (*Road-making*)	C
Asphalte Powder, *in bags*—(as Asphaltum).	
Augers—(as Tools, *Carpenter's, &c.*)	
Axles and Wheels, *Locomotive Engine and Tender*— Locomotive Wheels on the return journey after repairs, to be charged at half rates.	
Babool Dust	2
Bagging, *old, in bundles, 2-ton lots*	C
Bags, *Leather in trusses, packs, or bales*	3
„ „ *e.o.h.p.*	4
„ *Nail, in bundles*	1
„ *Paper, in bags or bundles.* Exceptional rates for Paper apply.	
Baking Powder—(And to be included in Grocery List No. 2)	2
Ballast or Kentledge, *iron*—(as Pig Iron).	
Balusters, *cast iron, packed*—(as *Castings, iron or steel*).	
Barèges—(as Woollen and Worsted Goods).	
Barrels (*Folding*), *new, folded in bundles*	2
Baskets—	
Coal baskets or boxes (*Colliers'*), *rough*	1
Osier, brown, heavy, in bundles, not packed nor wrappered	4
Twig, brown, heavy, in bundles not packed nor wrappered	4
Basket Work—(as Baskets, *e.o.h.p.*).	
Basins, Lavatory—(*see* Lavatory Stands).	

y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Bath Bricks—(as Bricks, *Flanders or Scouring*).	
Baths	3*z*
Beadings, *not gilt*—(*see* Joiners' Work).	
Beadings and Mouldings, *gilt, lacquered, or varnished, protected by boards*	3
Bedsteads, *iron, or other metallic, in bundles*	3*y*
Bells, *broken*	2
Bicarbonate of Soda—In the Alkali List the entry to read : "Bicarbonate of Soda, *in casks or bags.*"	
Billiard Tables, *Slate Beds of*—(*see* Slate Beds, &c.).	
Biscuits, *Ship, in bags or casks*	1
Bisulphite of Lime, *in casks*—(as Finings, at Ale and Porter Rates).	
Black Oil or Black Varnish, *common, in iron drums*	
Blocks or Bricks, *Terra Cotta*—(*see* Terra Cotta).	
Blocks, *flooring, wooden*—(*see* Wooden).	
„ *for paving*—(*see* Wooden).	
Blood, *raw, from slaughter-houses.* (Exceptional rates for packed manure apply)	C
Blooms, Billets, and Ingots, *not foreign, iron or steel.*—To be charged 10 per cent. over the Exceptional rates for Pig Iron, minimum charge as for 4 tons per truck. The charge not to exceed the Class B rates, nor the Exceptional rates noted for the Iron and Steel List in Class C.	¶
Blubber	1
Blue, *Laundry (Liquid)*—	
In casks or iron drums, or in bottles packed in casks or cases	2
In Jars, packed in hampers or baskets	3
Boards, *Oak Flooring, planed or grooved*	3*y*
Boats (*rowing*) and Canoes, *minimum* 1 *ton per truck, S. to S., O.R., exclusive of labour*	3
Bobbins, *in cases*	2
Boilers, *Furnace and Kitchen, iron or steel*	2*y*
Boilers, *iron or steel*—	
Weighing less than a ton, occupying only one waggon	2
Not exceeding 30 feet S. to S—(*see* Note below)	1
Above 30 feet, and not exceeding 45 feet, S. to S.	2
Above 45 feet, S. to S.	3
Requiring more than one waggon, or a special boiler waggon, to be charged not less than as 2 tons per waggon, to be loaded by sender and unloaded by consignee.	
Boilers are not subject to the additional charge for Heavy Weights.	
NOTE.—*Boilers under* 30 *feet, except where specially provided for at lower rates, to be charged S. to S. at the Exceptional rates recorded for Machinery when such Exceptional rates are less than* 1*st Class, such rates not being subject to the additional charge for heavy weights.*	
Tools and Tackling sent with Boilers.—*To be charged the Boiler rate; and on the return journey, when conveyed back by the same route as the outward journey,* 1*st Class.*	
Boiler Fittings, *when accompanying the Boiler, to be charged same rate as the Boiler.*	
Boiler Lorries, sent by Boiler Makers with Boilers, to be charged on the outward journey the same rates as the Boilers which they accompany, but to be returned free.	
Bomb Shells, *not loaded*	1
Bone Scales and Horn Scales—(as Bones).	
Bones (*common*), *for Manure, not packed*—(as Packed Manure).	
Books	3
Boot Stiffeners	2

¶ Fractions of a halfpenny and above to be charged as a penny, and fractions under a halfpenny to be dropped.
y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Boot and Shoe Linings, *e.o.h.p.*	2
Boots and Shoes—Leather cut into Boot and Shoe Shapes, to be charged same as Boots and Shoes.	
Boots, Shoes, and Clogs, *old, in bags*	2
Boracic acid, *crude, in casks*	2
Bottle Moulds, *iron*	2
Bottles, *glass, black, green, or pale, common, not packed, S. to S. only, minimum charge as for 2 tons*	1
Bottles and Jars, *earthenware or stoneware, packed or protected by wickerwork*	1
Not packed nor protected by wickerwork, S. to S., minimum charge as for 2 tons per waggon, exclusive of labour, O.R.	1
Boulinikon (*see* Floor Cloth).	
Boundary Posts, *street, iron*	C
Boxes, *Cardboard, in cases*	3
„ *Cardboard, in crates*	4
„ *Cigar, in cases*	3
„ *Hat, leather—*	
If packed in boxes, cases, parcels, or hampers	4
If packed in trusses, packs, or bales	3
„ *Wooden, for nesting Mineral or Aërated Water Bottles, or Beer or Cider Bottles*	3*y*
„ *Pill, packed*	4
„ *Paper Pulp, iron, galvanized*	3*y*
Brass Dust—(as Brass).	
Brewers' and Distillers' Grains, *desiccated*—(*see* Draff).	
Bricks, *Common, glazed (red, blue, or brindled)*	20 per cent. over the rates for common bricks.¶
„ *Brown, salt glazed*	10 per cent. over the rates for Fire Bricks.¶
„ *Glazed or enamelled*	20 per cent. over the rates for Fire Bricks.¶
„ *Bath*—(as Bricks, *Flanders or Scouring*).	
„ *Kiln Floor glazed*—(as Glazed or Enamelled Bricks).	
„ *Runner*	B
„ *Terra Cotta*—(*see* Terra Cotta).	
Bristles, *in hampers*	2
Brooms and Brushes, *Bass or Fibre, in bundles*	3
Brooms, *with iron backs, in crates or casks*	1
Bucket Ears	C
Builders' Implements—	
Ladders, *part of consignment of Builders' Implements*	1*
Bump—(as Yarn, Twist, and Weft, *Cotton and Linen*).	
Bungs, *wood*, or Shives—	
When accompanying Ale for the same consignee, to be charged at the rates for Ale.	
Bungs and Corks—	
Bungs and Old Corks, when accompanying Ale for the same consignee, to be charged at the rates for Ale.	
Bunks, *for Emigrant or Cattle Ships, galvanised iron—*	
In cases	2
In bundles	3*y*
Busbies, *Soldiers'*	4
Butter Powder	2

* Subject to special arrangement when of unusual length, bulk, or weight, or of exceptional bulk in proportion to weight.

¶ Fractions of a halfpenny and above to be charged as a penny, and fractions under a halfpenny to be dropped.

y. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Camomile Flowers—(as Drugs).	
Candlewick—(as Yarn, *cotton and linen*).	
Canes and Rattans, *packed*	3
Canoes—(*see* Boats).	
Cans, *Water*—(*see* Holloware).	
Canvas, *in bales*	2
Caps, *Men's or Boys' (except Silk), in boxes or cases, wooden (except Bandboxes)*	3
Caps, *Mens' or Boys' (except Silk), in hampers or parcels*	4
Caramel (Burnt Sugar), *for Brewing purposes, in casks or bags*	1
„ *e.o.h.p.*—(as Confectionery).	
Carbolic Acid, *crude, in casks*	1
„ *solid, for disinfecting*	1
Carbolic Seed Dressing, *in casks or iron drums*	1
Carboys, *glass, empty (new) protected by basket work or tubs—Minimum charge as for 1 ton, S. to S.*	3
When not so protected, to be carried at Owner's risk only—Minimum charge as for 1 ton, S. to S.	3
Carding Machine Cards, *old*	3*y*
Carding, Spinning, and Weaving Machinery, *old or second-hand, packed in cases*	2
Not packed at O.R. only	3
Cards and Tickets, *Pasteboard, not printed*	1
Cards for Carding Machines, *when declared in waterproof boxes*	4
Carferel; *packed*	C
Carpeting, *e.o.h.p.*	3
„ *if exceeding 15 feet in length*	4
„ *Cork, e.o.h.p.*	3
„ „ *if exceeding 15 feet in length*	4
Carpet Lining, *cork*	2
Carriage, Cart, or Coach Wheels—(*see* Wheels).	
Carriages on their own wheels, *packed in cases or crates*—(as Carriage Bodies. Minimum charge as for 5 cwts.).	
Carrots—(*see* Vegetables).	
Cartridge-making Machines	2
Carts, *Mail, children's*—(*see* Mail Carts).	
Carts, *Hand*	3
Carts and Waggons, *empty*—(as Agricultural Machines and Implements. No less charge than as for 10 cwts. each).	
Cases (*Folding*), *folded in bundles, new*	2
Castings, *iron, light, e.o.h.p.*	3*y*
„ *Sanitary, iron or steel, for Urinals and Water-closets*	3*z*
„ *steel, e.o.h.p.*	3*y*
„ *in the rough, for Gun Carriages*	C
„ *concrete*—(*see* Concrete).	
Casts—(*see* Figures).	
Cats' and Dogs' Meat (*Cooked*), *packed (carriage to be prepaid)*	2
Catsup—(as Sauces).	
Cattle Troughs—(*see* Troughs).	
Celery—(*see* Vegetables).	
Cement (*metallic*), *in blocks*	C
Cerealine (Prepared Maize)	2
Chaff, *in bags, not for Cattle feeding*	2
Chair Arms (*Garden*), *iron*	3*y*
Chair Seats, *wire, on frames*	3
Chairs, *in pieces, packed in cases*	3

y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Chairs, *Windsor and common, new*	5*x*
„ *common, folding, in boxes, cases, crates, and parcels*	4*x*
„ „ „ *not stuffed, packed in cases or bundles*	3*y*
Chairs and Seats (*Garden*), *e.o.h.p.*	4*z*
Cheese, *in hampers*	2
Chicory Root	1
Chimney Pieces, *marble or slate, e.o.h.p., packed*	3*z*
Chimney Pots, *earthenware or fire-clay, O.R.*—(as Sanitary Tubes).	
Cigar Boxes—(*see* Boxes).	
Cisterns—	
Cast iron	2*y**
Iron or wooden (not lined with lead), such as can be carried in an ordinary waggon	2
Wooden, lined with lead	3*
Citric Acid, *in casks or cases*	3
Clay, *Fire, in bulk.* Exceptional rates for Fire Bricks apply.	
„ „ (*in small lots*), *forwarded in same truck as Fire Bricks*—(as Fire Bricks).	
Clippings, *iron or steel. To be charged 10 per cent. over the rates for Pig Iron, minimum charge as for 4 tons, the charge not to exceed the charge for Iron and Steel Scrap*	¶
Clogs, *old*—(*see* Boots).	
Cloth, *linen, bleached, tied in bundles, but not protected by wrappers, or not packed*	4*y*
Cloth, *Sponge* (or Engine-cleaning Cloth), *cotton (not oily)*	2
Clothing, *old (except as under)*	3
„ *old (Soldiers', Police, Prison Warders', Railway Porters', Postal and Telegraph)*	2
thing, *Old, to and from Dyeing and Cleaning Establishments*—	
If packed in trusses, packs, or bales	3
If packed in boxes, cases, parcels, or hampers	4
Cocoa Nuts, *packed*	2
Cocoa Nut Fibre Mats—(as Cocoa Nut Fibre Matting).	
Cocoa Nut Refuse for Manure—(as Packed Manure).	
Colours and Paints—	
In jars containing 2 gallons or under	4
In jars protected by wickerwork	4
Composition, *for coating ships' bottoms, in casks or iron drums*	C
„ *for making printers' rollers*	3
„ *for retaining heat in boilers, packed*	C
„ *for the manufacture of boot and shoe soles*	3
„ *for preventing incrustation in boilers*—	
In casks, cases, or boxes	1
In tins	2
Concrete Castings, *not packed, at O.R. only*	1
„ „ *packed*	2*z*
Confectionery, *in hampers*	3
Conservatories and Hothouses, *in parts*	5*y**
Copper Dross—(as Dross, *Metal*).	
Copper Dust—(as Copper).	
Copper Pyrites—(as Pyrites, *e.o.h.p.*).	
Copper scrap—(as Copper).	
Coquilla Nuts, *packed*	2
Cordage—(as New Ropes).	

* Subject to special arrangement when of unusual length, bulk, or weight, or of exceptional bulk in proportion to weight.

¶ Fractions of a halfpenny and above to be charged as a penny, and fractions under a halfpenny to be dropped.

x, *y*, *z*. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Cordials—	
In casks	2
In jars or bottles containing 2 gallons or under	4
Jars and Glass or Earthenware Bottles only to be carried when protected by basket-work, and none exceeding 7 gallons in measure to be accepted for conveyance.	
Cork Socks, *in white rod hampers*	4
Corks—(*see* Bungs).	
Corn Crushers	4*y*
„ *in 1-ton lots*	3*y*
Cornice Poles, *wood, not gilt, in bundles, without rings or ends*	3*y*
Corozzo Nuts, *packed*	2
Corves (small waggons for use in Collieries), *in full truck loads, S. to S.*	1
Cotton Mill Sweepings, *not oily, in 2-ton loads*	1
Cotton Seed Oil Refuse, *in casks or iron drums*	C
Cranes, *travelling on their own wheels*	1
Cranes, *complete, loaded in railway waggons*	2
To be charged at Exceptional rates for "Machinery," where lower than the Class rates.	
Crane Work, *in parts of wood or iron, or both wood and iron (except Boilers, Engines, and Winches, forming parts of Steam Cranes, to be charged at ordinary rates)* :—	
Not exceeding 40 feet	C
Exceeding 40 feet and not exceeding 60 feet, to be charged 20 per cent. over the rates for lengths of 40 feet	¶
Above 60 feet, by special arrangement.	
Cream of Tartar, *in casks or cases*	3
Creosote Salt, *in casks*	C
Crinoline Steel	3
Crop Ends, *iron and steel.* To be charged 10 per cent. over the rate for Pig Iron, minimum charge as for 4 tons. The charge not to exceed the charge for Iron and Steel Scrap	¶
Crucibles, *e.o.h.p.*	3*y*
Cudbear—(as Dyes).	
Curd Cutters—(as Machinery).	
Dandelion Roots	C
„ „ *dried*	2
Desiccated Food for Live Stock	C
Dextrine, *in bags*	1
Disinfecting Fluid—(*see* Fluid).	
Draff—	
Brewers' and Distillers' Grains, *desiccated*—(as Grain).	
Drapery—*Mixed.*	
When a package contains articles comprised in the respective terms "Drapery, heavy§" "Drapery, light§" and any of the following articles in the 5th Class, viz. :—	
Artificial Flowers.	
Bonnet or Band Boxes, *new, in crates or boxes.*	
Cabinet Ware (*as* Furniture).	
Crape.	
Feathers.	
Furs.	
Gloves (*except cotton, woollen, and worsted*).	
Lace.	
Millinery.	
Muslins, *sewed.*	
Portmanteaus, *packed.*	
Ribbons.	

¶ Fractions of a halfpenny and above to be charged as a penny, and fractions under a halfpenny to be dropped
§ As per General Classification. *y.* Reduced rate at O.F.

Article.	To be charged at Rates as for Class
Silk (including Tussah), *manufactured.* Silk Plush. Silk Velvet. *it may be described as* "Mixed Drapery," *and in such case be charged at the Exceptional rates for* "Drapery" *in the 4th Class, or at the Class rates as named hereunder, viz.:—*	
If packed in boxes, cases, parcels, or hampers	4
If packed in trusses, packs, or bales	3
Druggists' Sundries, *in mixed packages*—Exceptional rates for Drugs apply.	
Drugs, *in crates*	4
Drugs, *in jars, bottles, and carboys*— *Jars and glass or earthenware bottles or carboys only to be carried when protected by basket-work, and none exceeding 7 gallons in measure to be accepted for conveyance.*	
Drums and Kegs, *iron, empty*	2
Dryers, *non-explosive and non-corrosive*	1
Drying Closet Fittings, *iron or steel*— *In cases*	1
Not enclosed in cases or boxes, if declared at owner's risk— *2-ton lots* (Exceptional rates for Iron and Steel in Class C apply)	C
Less lots	1
Dust Preventers, *for fireplaces, cast iron*	2*y*
Dye Extracts—(as Dyes).	
Dyes, *in copper carboys*	3
Dyes, *in glass carboys*	5*y*
Dynamos	3*y*
Earthenware, *not packed, S. to S., minimum charge as for 2 tons per waggon, exclusive of labour O.R.*	1
Earthenware, *in crates*— *Full-faced crates weighing over 15 cwts., to be carried only at O.R.*	
Ebonite or Vulcanite	3
Eggs, *in hampers or sieves*	4*y*
Electric Insulators—(*see* Telegraph Insulators).	
Emery Rollers and Emery Wheels, *e.o.h.p.*	3*y*
Ensilage Rollers	1
„ Stack Presses	1
Epsom Salts—(as Sulphate of Magnesia).	
Evergreens, *in crates or cases*	4
Fat, *raw, for candle or soap-making, in casks or bags*	1
Feathers, *hydraulic pressed, in bales*	4
Felspar	C
Felt Hat Bodies, *nested, packed*	3
Felt Paper, *tarred*	1
Fencing, *iron or steel, expanded*	2
Fender Curbs—(*see* Grates).	
Fenders, *e.o.h.p.*	5*z*
Fern, *for litter or packing, hydraulic or steam press-packed, minimum charge as for 2½ tons per waggon, exclusive of labour, O.R.*	C
Ferns (*not in pots*), *in boxes, cases, or hampers*	3
Ferro Aluminium, *in casks and cases*	2
Field Rollers—(as Agricultural Machines and Implements).	
Figures, Casts, or Ornaments, *Alabaster, Bronze, Gypsum, Plaster, Stucco, or Terra Cotta*	5*y**
Casts, *Terra Cotta, O.R.*	2
Casts, *Plaster* (*common*), *for ornamenting ceilings, packed, O.R.*	3
Ornaments, *Gypsum, common, O.R.*	3
Filters, *earthenware, packed*	3*y*

* Subject to special arrangement when of unusual length, bulk, or weight, or of exceptional bulk in proportion to weight.

y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Finings, *Ale and Porter*—(*see* Ale and Porter).	
„ *Wine*—(*see* Wine).	
Fire Clay—(*see* Clay).	
Fire Clay Ware, *not otherwise specified*—	
Not packed at O.R.	1
Packed	2*z*
Fire Engines, *steam or other, 3 tons and above*	2
Fire Escape Ladders, *made of iron wire and steel tubes*	3
Fire Lighters, *packed*	1
Fire Screens (*Army*), *iron*	3
Fireplace Ornaments (*Cardboard or Paper*)	3
Firewood, *prepared, 3-ton loads*	C
Flavine	3
Flax Seed, *for sowing*	2*y*
Fleshings and Glue Pieces—	
Wet, from tanners, in bags	C
Wet, from tanners, not packed, exclusive of labour, O.R.	C
Floor Cloth, including Oil Cloth, Boulinikon, Kamptulicon, and Linoleum	3
If exceeding 15 *feet in length*	4
Flour. Exceptional rates for Grain apply.	
„ *Sago* } Exceptional Rates for Grain apply	C
„ *Rice* } Exceptional Rates for Grain apply	C
„ *Tapioca* } Exceptional Rates for Grain apply	C
Flour-dressing or Purifying Machines	3*y**
Flour of Sulphur—(as Sulphur, *e.o.h.p.*).	
Flower Pots, *clay, common, unglazed, not packed, exclusive of labour, O.R.*	C
Flour Stands, *wire*	4
„ „ *wrought iron*	4*z*
Fluid, *Disinfecting, in casks or tins*	2
Fly Papers	3
Forks, *Digging, in bundles*	2
Forks and Spoons, *plated*—(*see* Plated Goods).	
Founders' Dust, *packed*—(*not to be carried loose*)	C
Frames, *Almanack*—(*see* Almanack)	
„ *Mule, not packed*—(as Machinery, *in parts, not packed*).	
„ *Packing* (*Folding*), *folded in bundles* (*new*)	2
„ *Photograph*—(*see* Photograph).	
„ *Pianoforte, cast iron*	4
„ *Window, iron*—(*see* Window).	
Frilling Machines—	
In parts, packed	4*y*
Fitted up, packed	5*y*
Fruit—	
Apples, *packed*	1
Pears, *in bags or hampers*	1
Fruit Salt—(as Drugs).	
Fuel Economisers, *iron or steel*	1*y*
Fumigator, *Nicotina, in blocks, packed*	2
Furnaces, *Patent Puddling*	2
Furniture, *in vans, carts, or road waggons*—	
The charge applies to the gross weight of the van, cart, or waggon and contents.	
Furniture (*School*)—(as Joiners' Work).	
Furniture, *e.o.h.p., in van bodies*—	
The charge applies to the gross weight of van body and contents.	

* Subject to special arrangement when of unusual length, bulk, or weight, or of exceptional bulk in proportion to weight.

y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Furniture Vans, *empty, actual weight, S. to S., e.o.h.p.*	2*
Furniture Vans returned empty if from the same station to which they were carried full, *actual weight*	C*
Between Stations in England, Scotland, and Wales, the outward journey charge on Furniture Vans going to be filled will be reduced to Class C. rate, actual weight, upon proof of their having been forwarded loaded by railway from the station to which carried empty.	
Furniture Van Bodies, *empty, actual weight, S. to S.*	3
Furniture Van Bodies returned empty if from the same station to which they were carried full, *actual weight*	C
Between Stations in England, Scotland, and Wales, the outward journey charge on Furniture Van Bodies going to be filled will be reduced to the Class C. rate, actual weight, upon proof of their having been forwarded loaded by railway from the station to which carried empty.	
Galvanizing Pots, *iron*—(as Pots, *iron, for melting iron*).	
Garden Arches	4*y**
Gas-making Apparatus	3
Gas Stoves—(*see* Stoves).	
Gimlets—(as Tools, *Carpenters', &c.*).	
Glass—	
Crown	3*y*
Cut, *ornamental, for Doors*	5*y*
Flint, *e.o.h.p.*	3*y*
Plate, *rough*	3*y*
„ *not silvered*	3*y*
„ *silvered*	5*z*
Prepared, *for Photographers*	4*y*
Rolled	3*y*
Sheet	3*y*
Silvered with Nitrate of Silver	3*y*
Stained	5*y*
Window	3*y*
Glass, *e.o.h.p., in boxes or cases*	4*y*
Glass House Pots	4*z*
Glauber's Salts—(as Sulphate of Soda).	
Globes, Moons, or Shades, *common*	4*y*
„ „ „ *e.o.h.p.*	5*y*
Glucose—(Exceptional rates for Sugar apply).	
Glue Pieces and Fleshings, *wet, from tanners, in bags*	C
„ „ *wet, from tanners, not packed, exclusive of labour, O.R.*	C
Glycerine, *in crates, hampers, or basketed tins*	4
„ *in jars or bottles containing 2 gallons or under*	4
Goat Skins, *e.o.h.p.*	3*y*
Gold Size, *in casks or iron drums*	3
Goods made partly of Cotton, Linen, Wool, Silk, &c. (*see* Textile Fabrics).	
Grains, *Brewers' and Distillers' desiccated*—(*see* Draff).	
Grain Samples, *not exceeding 3 lbs. weight, 6d. each, any distance.*	
Granite, *polished or dressed, in blocks or slabs exceeding 2 inches in thickness, O.R.*	C
Grapes, *not in cork-dust or saw-dust, in casks, and not hot-house*	5
Grates, Ranges, or Stoves, and Iron Fender Curbs, *polished or enamelled, not packed, O.R.*	3

* Subject to special arrangement when of unusual length, bulk, or weight, or of exceptional bulk in proportion to weight.

y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Grates, Ranges, or Stoves, and Iron Fender Curbs, *polished or enamelled, packed*	4z
Grates, Ranges, or Stoves, and Iron Fender Curbs, *common or kitchen*	2y
Ovens, *e.o.h.p.*	4z
„ *common or kitchen*	2y
Gravestones or Tombstones, *e.o.h.p.*	4y
1 *ton and above*	3y
Tombstones of polished Granite, in parts, packed in cases, to be charged same as Granite, polished, in cases.	
Gravestones or Tombstones, *Terra Cotta*	2
Grease Butter, *for smearing*—	
In casks	1
In pails	2y
Grindstones, *not fitted up*	C
Gunny Bags	1
Gun Stocks, *rough*	1
Gutta Percha Goods	3
Guttering and Spouting (*Wood*)	1
Haberdashery and Small Wares—	
If packed in trusses, packs, or bales	3
If packed in boxes, cases, parcels, or hampers	4
Hair—	
For Manufacturing purposes	2
For Upholsterers' purposes	3
For Plasterers' purposes, dry	2
Hammer Heads, *e.o.h.p., not packed*	2
Hammocks, *string*	2
Hand Carts	3
Hand Spikes, *wooden, not packed*	C
Handles, *Horn*	3
Hardware—	
Bedsteads, *iron, or other metallic, in bundles*—(*see* Bedsteads).	
Forks and Spoons, *plated*—(*see* Plated Goods).	
Medals, *metal, not gold, silver, or plated*	3
Hats—	
Felt (not Soft), in cases or boxes	4
Rush and Willow Wood—	
In cases, boxes, bales, or bundles	3
In crates	4
Soft Felt, in cases or boxes	3
E.o.h.p.	5
Hay, *machine-pressed (not hydraulic or steam-pressed), minimum* 2½ *tons per truck, exclusive of labour*	C
Not to apply to Hay that has not been compressed by the actual use of a compressing machine.	3
Hawsers (*Wire Rope*), *on reels, with winding machinery attached*	3y
Healds and Reeds, *packed in cases*	2
Not packed, or in bundles	3
Heaters, *Expanding*, Feed-water—(as Boilers).	
Helmets, *Felt, in cases or boxes*	4
Hides, *e.o.h.p.*	3y
„ *not thoroughly salted or dry, including those sprinkled with salt, to be charged as "Hides, e.o.h.p."*	
Hide Dressing Machines, *in parts, packed or loose*	2y
„ „ *fitted up*	2
Hobby Horses—(*see* Swing Boats).	

y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Holloware, *iron, including Kettles, Pans, Maslins (Pots for boiling Fruit), and Water Cans, in casks or crates*	3*y*
Holloware, *iron, including Kettles, Pans, Maslins (Pots for boiling Fruit), and Water Cans, e.o.h.p.*	4*y*
Honestones—(*see* Whetstones).	
Honey, *in tins, packed in cases, and in pails strongly covered and padlocked*	3
Hoofs and Horns, *Buffalo, Cow, Goat, Ox, and Sheep, not packed, O.R.*	2
Hooks, *ceiling, galvanised iron, packed*	1
„ *clip, packed*	1
Hoops, *wooden, in bundles*	1
Hop Bitters—(as Drugs).	
Hop Stout and Hop Bitter Ale—(as Ale and Porter).	
Horn Handles—(*see* Handles).	
Horn Scales and Bone Scales (as Bones).	
Horn Tips, *not packed, O.R.*	2
Horse Shoe Moulds, *iron*	C
Horses, *dead (Knackers'), O.R., 2d. each per mile; minimum charge £1 per waggon; charges to be prepaid.*	
Hose, *Leather and Canvas, packed*	3
Hothouses—(*see* Conservatories).	
Hydraulic Engines—(as Hydraulic Machinery).	
Hypo-sulphate of Lead, *black*—(as Paints).	
Ice, *in 4-ton loads, exclusive of labour, O.R.*	C
„ *packed*	1
Illumination Fittings	3
Indian Red, or Oxide—(as Paints or Colours).	
Indiarubber Waste	2
Indigo Paste	3
Iodine—(as Drugs).	
Iron—	
Packing or Packing Iron, *for Ship Builders.*—To be charged 10 per cent. over the rates for Pig Iron. Minimum charge as for 4 tons. The charge not to exceed the charge for Iron in Class C.	¶
Spiegel, *English, in pigs* (*Exceptional rates for Pig Iron apply.*)	B
Iron and Steel—	
Axle Boxes, *railway, in the rough*	C
Bridgework, Gasometer-work, and Roofwork—	
Tools and other appliances (except Scaffold Poles and Boards, and Portable or Stationary Engines) for the erection of Bridgework, Gasometer-work, and Roofwork, must be charged the same as the Bridgework, Gasometer-work, or Roofwork, on both the outward and (when conveyed back by the same route as outward) inward journeys.	
Ingot Moulds.—To be charged 10 per cent. over the Exceptional rates for Pig Iron. Minimum charge as for 4 tons per truck. The charge not to exceed the Class B rates, nor the Exceptional rates noted for the Iron and Steel List in Class C	¶
Pipes (exclusive of Rain Water Pipes), *Gas, Water, Air, and Steam, in less lots than 2 tons*	1*y*
Plates.—Open Sand, *cast iron*—To be charged 10 per cent. over the Exceptional rates for Pig Iron, minimum charge as for 4 tons per truck. The charge not to exceed the Class B rates, nor the Exceptional rates noted for the Iron and Steel List in Class C	¶
Puddled Bar, *iron*—(*see* Puddled).	
Standards for Wire Netting Fencing—(as Posts for Wire Fencing).	
Stone-breaking Machine Jaws—(Exceptional rates for Iron List in Class C apply)	C

¶ Fractions of a halfpenny and above to be charged as a penny, and fractions under a halfpenny to be dropped.
y. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Iron and Steel (*continued*)—	
Scrap, *heavy, not foreign, iron or steel.*—To be charged 10 per cent. over the Exceptional rates for Pig Iron, minimum charge as for 4 tons per truck, the charge not to exceed the Class B rates, nor the Exceptional rates noted for the Iron and Steel List in Class C. -	¶
Wheel Centres, *locomotive* - - - - - - -	C
Wire, *iron*—Staples (of iron wire) sent with Iron Wire to be charged at the same rates as the Wire.	
Wire, *steel.*—Staples (of steel wire) sent with Steel Wire to be charged at the same rates as the Wire.	
Isinglass, *in casks or cases* - - - - - - - - -	4
Istle, *for Brush-making* - - - - - - -	2
Jars—(*see* Bottles).	
Joiners' Work (*common wood*)—Beadings and Mouldings (*not gilt, lacquered, or varnished*), Doors and Door Frames, Fittings and Fixtures for Buildings, Staircases, Balusters, and Hand Rails, Window Sashes and Frames and Shutters. - - - - - - - - - -	3*y*
Kamptulicon—(*see* Floor Cloth)	
Kegs, *iron, empty*—(*see* Drums).	
Kentledge—(*see* Ballast).	
Kettles—(*see* Holloware).	
Kieserite - - - - - - - - - -	C
Kilting Machines—	
In parts, packed - - - - - - - - - - -	4*y*
Fitted up, packed - - - - - - - - - -	5*y*
Kips, *Green or Market* - - - - - - - - - -	3*y*
Kips not thoroughly salted or dry, including those sprinkled with salt, to be charged as "Green or Market."	
Knapsacks (*Soldiers'*), *new, in trusses, packs, or bales* - - - -	3
Knitting Machines—	
In parts, packed - - - - - - - - -	4*y*
Fitted up, packed - - - - - - - - -	5*y*
Lac, *in casks* - - - - - - - - -	3
Lactina - - - - - - - - - - - - -	2
Lamp Chimneys, *glass* - - - - - - - -	3*y*
Lamps, *Lucigen* - - - - - - - - - -	2
Lapidar, *in casks* - - - - - - - - -	2
Lard, *in baskets, flats or hampers* - - - - - - - -	4
„ *in tins, when the open ends of two tins are placed together and corded, so as to make one package* - - - - - - -	2
Laundries, *Steam, packed* - - - - - - - -	2
Not packed - - - - - - - - - -	3*y*
Lavatory Stands and Basins, *earthenware, complete, enamelled, packed*	3*y*
Lawn Mowers, *packed* - - - - - - - - - -	3*y*
Not packed - - - - - - - - - -	4*z*
Lawn Tennis Markers, *packed* - - - - - - - - -	3*y*
Not packed - - - - - - - - -	4*y*
Lead Ashes, *in casks* - - - - - - - -	1
Lead Foil - - - - - - - - - -	2
Lead Piping, *e.o.h.p.* - - - - - - - -	2*y*
Lead Wire—(*see* Wire, *lead*).	
Leather, *cut into Boot and Shoe shapes*—(*see* Boots and Shoes).	
Leather Leggings, *in bales* - - - - - - -	3
Leather Rolling Machines, *in parts, packed or loose* - -	2*y*
Fitted up - - - - - - - - -	2
Leather Shavings, *for Manure*—(Exceptional rates for Packed Manure apply) - - - - - - - - - -	C
Letter Boxes, *pillar* - - - - - - - -	2*y*

¶ Fractions of a halfpenny and above to be charged as a penny, and fractions under a halfpenny to be dropped.
y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Limestone, *in blocks, cases, or slabs, polished or dressed, O.R.*	C
Lime Water,—*in casks.*—To be charged as Finings, at the Ale and Porter rates.	
Linen Cloth, *bleached, tied in bundles, but not protected by wrappers, or not packed*	4*y*
Linoleum—(*see* Floor Cloth).	
Lithographic Stones, *packed*	4*y*
Locomotive Engines, *in parts.*—Not to be subject to additions laid down for articles of exceptional weight.	
Locomotive Engines and Tenders Loaded on Railway Companies' Trucks, when sent to makers for repairs, to be charged half rates for the return journey.	
Locomotive Engines, packed for export, and not on their own wheels, to be charged as Machinery, *e.o.h.p.*	
Logwood Grips, *in bags*—(as Dyewoods, *Ground*).	
Logwood Tar—(as Vegetable Tar).	
Looking Glasses, *common, in wooden frames, not gilt*	4
Looms, *in cases*	2
Not packed	4*y*
Lustres and Vases, *glass*	5*z*
Machinery, *not packed, e.o.h.p.*	3*y**
Exceptional rates noted for "Machinery" apply to Machinery not otherwise provided for, and also to all Machinery and Machines in Classes 1 and 2, not otherwise provided for at lower rates.	
Mail Carts, *Children's, packed*	4
Not packed, at O.R.	4
Malt Crushers	4*y*
In 1-ton lots	3*y*
Malt Food, *dried, in tins, packed*	3
Mangers—(*see* Stable Fittings).	
Mangles (*Box*), *packed*	2
Mantel Shams, *iron*	2*y*
Manure, *Shoddy*—(*see* Shoddy Manure).	
Marble, *packed, and in slabs cemented together*	3*y*
Marble Scantle, 2 *in. and upwards in thickness*	2*y*
Marble Slabs, *not packed, at O.R.*	2
Margarine—(Exceptional rates for Butter apply).	
Maslins—(*see* Holloware).	
Match-box, Wood, *packed*	2
In bundles, or not packed	3
Mats, *Cocoa-nut fibre*—(as Cocoa Nut Fibre Matting).	
Mats, *Sheep-skin*	3
Mattresses, *packed*	3
Meat Offals—(*see* Offals).	
Medals, *metal, not gold, silver, or plated*	3
Melons, *packed*	2
Meters, *water*—(*see* Water Meters).	
Milk Cans and Pans, *tinned iron*	2
Milk Food *dried, in tins, packed*—(as Preserves).	
Milk Scale	B
Mineral Black (Black Earth)	1
Mineral Carbon, *in bags or casks*	C
Molliscorum, *in iron drums*	1
Moons—(*see* Globes).	
Moss, *in bales*	2
,, *not packed, minimum charge as for* 20 *cwts. per waggon*	4
Mouldings, *not gilt*—(*see* Joiners' Work).	

* Subject to special arrangement when of unusual length, bulk, or weight, or of exceptional bulk in proportion to weight.

y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Moulding Machines	2
Moulds (*Glass Bottle*), *iron*	2
„ (*Horse Shoe*), *iron*	C
„ (*Pot*), *old*	C
Mucilage, *for Manure, in casks*—(as Packed Manure).	
Munjeet	1
Music Stands (*Folding*), *metal*	3
Nail Bags—(*see* Bags).	
Naphthaline, *Solid, in bags*	3
In casks	1
Nets, *Sheep*	2
Netting, *Fishing and Garden, in bales*	2
„ *of iron wire*	2*z*
„ *Wire, Patent, for mattresses, in rolls covered with canvas*	2*z*
Noils, *Silk* (Exceptional rates for Waste Silk, undressed, apply)	3
Nut Galls—(*see* Gall Nuts).	
Offals of Animals and Meat Offals, *for Human Food*	3*y*
„ „ *for Manure. Not to be carried unless packed*—(as Packed Manure).	
Offals of Fish, *for Manure, in casks*—(as Packed Manure).	
Oil Cloth—(*see* Floor Cloth).	
Oil of Vitriol—(*see* Sulphuric Acid).	
Oil Stoves—(*see* Stoves).	
Oil, *black*, or Black Varnish—(*see* Black Oil).	
Oil, *Mustard, in bottles in cases*	2
„ *Neat's Foot, in tins packed in Wood Cases*	2
„ *Whale, in tins packed in boxes*	*z*
Oils, *Mineral, in Owner's tank waggons (not giving off an inflammable vapour at less than 73° Fah.), in 8-ton loads, S. to S., exclusive of labour, O.R.* Tank Waggons free both ways	C
Oils, *Mineral, in steel barrels, in Owner's waggons, not giving off an inflammable vapour at less than 73° Fah.*—To be charged the same as Oils in Owner's tank waggons, 8-ton loads, S. to S.; Empty barrels to be returned in the Owner's waggons free of charge.	
Oleographs—(as Pictures).	
Onions—(*see* Vegetables).	
Orchilla Weed	2
Ore, *red*	B
Organ Work	5*z*
Ornaments, *Alabaster, &c.*—(*see* Figures).	
„ *Fireplace*—(*see* Fireplace).	
„ *Table, glass*—(*see* Table).	
Osnaburghs, *in bales*	2
Ovens—(*see* Grates).	
Oven Soles, *brick and stone*	B & 20%¶
Overmantels, *cast iron, without Mirrors*	2*y*
„ „ *with Mirrors, packed*	4*z*
Oxide of Barium, *in iron drums*	3
Oxide of Manganese, *for gas purifying*	B
Oxygenated Water, *in casks*	1
In glass carboys	2
Oxygen Gas, *compressed, in approved bottles or cylinders (viz., bottles or cylinders made of wrought iron or steel welded tubes, welded top and bottom, and capable of resisting a pressure of 3,500 lbs. to the square inch).* May be loaded with ordinary Goods	2
Paints and Colours—	
In jars containing 2 gallons or under	4
In jars protected by wicker work	4

¶ Fractions of a halfpenny and above to be charged as a penny, and fractions under a halfpenny to be dropped.

y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Paint Mills	2
Palisades, *iron packed*	1
Pans—	
Chemical, *cast iron*	2*
Chemical and Dye, *iron or steel*	3*x**
Copper, *on iron frames, for Confectioners*	3
Dye, *cast iron*	2*y**
Earthenware, *closet, bath, urinal, and lavatory*—	
In casks or crates	2
Full-faced crates, weighing over 15 cwts., to be carried only at Owner's risk.	
Not packed, S. to S., minimum charge as for 2 tons per waggon, exclusive of loading and unloading, at Owner's risk only	1
Frying	2
„ *cast iron*	2*y*
Iron—(*see* Holloware).	
Latrine, *for Urinals*—	
In casks or crates	2
Not packed, S. to S., minimum charge as for 2 tons per waggon, at Owner's risk only	1
Sanitary, *galvanised iron*	2
Sugar, *iron*	2
„ *iron, enamelled, for Confectioners*	3
Paper, *in bales or bundles, other than for news-printing, packing, or wrappering*	1
Paper Finish	C
Paper Hangings, *packed*	2
Paper Pulp Boxes, *iron, galvanised*	3*y*
Paper Pulp or Half Stuff	C
Paraffin and Petroleum Oils—(*see* Oils).	
Parchment Clippings or Waste, *in bags, for Size-making*	2
Parian, *not packed, S. to S., minimum charge as for 2 tons per waggon, exclusive of loading and unloading, at Owner's risk only*	1
Parian, *in crates*—	
Full-faced crates weighing over 15 cwts. to be carried only at Owner's risk.	
Pattens, *Old, in bags only*	2
Patterns, *Travellers' (except China, Plated Goods, and Goods chargeable at 5th Class rates)*—	
If packed in boxes, cases, parcels, or hampers	4
If packed in trusses, packs, or bales	3
Travellers' patterns, when consisting of one class of goods only, to be charged at the rates noted for that particular class.	
Patterns, *wood, for castings*	4*y**
Pearl Shell Waste, *in bags, cases, or casks*	1
Pelts, *dry, in bales*	1
Pelts, Scrows, and Spetches, *wet, from tanners, in bags*	C
„ *wet, from tanners, not packed, exclusive of labour, O.R.*	C
Perambulators, *in parts, packed in cases, crates, or boxes*	3
Percussion Caps	3
Photograph Cards	3
Photograph Frames, *small, gilt, or plush covered, packed*	3
Photographs—(as Pictures).	
Pianoforte Frames, *cast iron*	4
Pianoforte Plates	4
Pictures, *Hawkers', common, in bundles or crates*	4*y*
Pile Drivers (*new*), *in parts of wood or iron, or both wood and iron (except Boilers and Engines forming parts of Pile Drivers to be charged at ordinary rates)*—	
Not exceeding 40 ft.	C

* Subject to special arrangement when of unusual length, bulk or weight, or of exceptional bulk in proportion to weight. *z, y, z.* Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Pile Drivers—*continued.*	
Exceeding 40 ft. and not exceeding 60 ft. to be charged 20 per cent. over the rates for lengths of 40 ft.	¶
Above 60 ft. by special arrangement.	
Pincers—(as Tools, *Carpenters', &c.*).	
Pipes, *cast iron lined with glass, for underground use*	1
Pipes, *Draining, common, for agricultural draining.*—Exceptional Rates for Bricks apply.	
Pipes, *Smoking, clay*	4*y*
Pipes, *Rain Water*—(*see* Rain Water Pipes).	
Pipes, *Gas, Water, Air, and Steam*—(*see* Iron and Steel).	
Piston Packing	2
Plaiting Machines—	
In parts, packed	4*y*
Fitted up, packed	5*y*
Plants and Shrubs, *garden, in baskets, mats, pots, or tubs*	5*y*
Plants, *e.o.h.p.*	3*y*
Plant Wash (*fluid*), *in casks or iron drums, or in bottles and tins packed in cases or casks*	2
Plaster Slabs, *fibrous*	1*z*
Plates, *steel*	C
Pomegranates—(as Fruit, *Ripe*).	
Poppy Heads—(as Drugs).	
Porcelain—	
In casks or crates	2
In hampers	3
Porter and Ale Finings—(*see* Ale and Porter Finings).	
Potatoes—(*see* Vegetables).	
Pots, *cast iron*	2*y*
Pots, *Galvanising*—(*see* G).	
Pots (Maslins), *for boiling fruit* (*see* Holloware).	
Poultry Food, *in bags*	C
Powders for Dyeing Hats, *in casks and iron drums*	2
Provender, *green, in lots of 2 tons and upwards*	C
Provender (Horse or Cattle), *in bags, or press-packed bales, minimum charge as for 2 tons per waggon*	C plus 25 per cent. ¶
Provender (Horse or Cattle), *in less lots than 2 tons*	1
Prussiate, *red and yellow*—(as Dyes).	
Prussiate of Potash	2
Puddled Bar, *iron*—To be charged 10 per cent. over the Exceptional rates for Pig Iron, minimum charge as for 4 tons per truck. The charge not to exceed the Class B rates, nor the Exceptional rates noted for the Iron and Steel List in Class C	¶
Punchings, *steel*—(as Heavy Scrap Iron).	
Punnets—(as Baskets, *e.o.h.p.*).	
Quassia Wood—(as Drugs).	
Quicks	3*y*
Rabbits, *alive*	5
Racks, *Soda Water, wrought iron*	3
Raffia	2
Rail Ends, *iron or steel* (as Scrap Iron).—To be charged 10 per cent. over the rates for Pig Iron, minimum charge as for 4 tons. The charge not to exceed the charge for Iron and Steel Scrap	¶
Railway Carriages, *new, in cases*	4
Railway Carriage Bodies, *packed for shipment*	2
Railway Waggon Bodies, *in pieces, bound together*	1
Rain Water Pipes, *for Spoutings and their connexions, cast iron*	2*y*

¶ Fractions of a halfpenny and above to be charged as a penny, and fractions under a halfpenny to be dropped.
y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Ranges—(*see* Grates).	
Rape Seed, *not for crushing for oil*	C
Rats, *live, in cages*	5
Reeds and Healds—(*see* Healds).	
Reeds and Rushes—	
Hydraulic or machine-pressed, minimum charge as for 2½ tons per waggon	C
In less lots than 2½ tons, S. to S.	1
In lots of 1 ton and above, S. to S., minimum charge as for 20 cwts. per waggon	3*y*
Rennet, *in casks*	2
Retorts, *clay, not packed, exclusive of labour, O.R.*—(Exceptional rates for Sanitary Tubes apply)	C
Retorts, *glass*	5*z*
Rhubarb—(*see* Vegetables).	
Ribbons, *made partly of silk and partly of other material*	4
Rollers, *Brass or copper, plain*	3
„ *Copper, old, for re-turning*	3
„ *Copper, engraved*	5*y*
„ *Emery*—(*see* Emery Rollers).	
Rolls, *iron, e.o.h.p.*	2*y*
Roofing Cloth	1
Ropes, *wire, new*	2*y*
Ropes, *wire, old*	C
Rushes—(*see* Reeds and Rushes).	
Saccharine—(Exceptional rates for Sugar apply).	
Sacks—(*Hop Sacks when accompanying Ale for the same consignee, to be charged at the rates for Ale*).	
Safety Fuze, *patent, at O.R.*	3
Saggars	C
Salt, *common, in bags, in Owner's waggons is charged as "Salt in bulk."*	
Salt, *Table, packed in cases or bags*—	
To be charged 10 per cent. over the rates for Salt in bulk, minimum 5 tons per truck, at O.R., O.W., exclusive of abour	¶
Sardine Tin Openers	3
Sarsaparilla—(as Drugs).	
Satin White	C
Sausages and Saveloys	4*y*
Saws—(as Tools, *Carpenters, &c.*).	
Scrap, *Iron and Steel*—(*see* Iron and Steel).	
Scrapers, *Door or Shoe*—(as Light Castings).	
Screwing Machines	1
Screws, Spetches, and Pelts, *wet, from tanners, in bags*	C
„ „ *wet, from tanners, not packed, exclusive of labour, O.R.*	C
Sealing Wax, *common, for sealing Bottles*	1
Seats—(*see* Chairs).	
Sea Water, *in casks*	C
Seeds, *for crushing for oil*—(Exceptional rates for Grain apply).	
Seeds, *Agricultural*	2*y*
Seed, *Flax, for Sowing*—(*see* Flax Seed).	
Seed, *Rape*—(*see* Rape Seed).	
Serge—(as Woollen and Worsted Goods).	
Serpentine, *manufactured, packed*	5*y*
Sewer Sludge Cake, *in bulk, for Manure*	B

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y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Sewing Machines, *fitted up, packed*	5*y*
„ *fitted up, not packed*	5*y*
Sewing Machine Stands, *in parts, packed in cases or frames*	3*y*
Shades—(*see* Globes).	
Shaping Machines	1
Shavings, *wood, in press-packed bales*	2
Sheep Skins, *e.o.h.p.*	3*y*
Sheep Skins not thoroughly salted or dry, including those sprinkled with salt, to be charged as "Sheep Skins, e.o.h.p."	
Sheep's Trotters, *in bags or casks*—(as Offals of Animals for Human Food).	
Sheet Steel	3*y*
Ships' Knees, *iron*—(as Angle Bars).	
Ships' Lighthouses, *iron*	2
Ships' Rudders, *iron or steel, S. to S.*	1*
Ships' Stems, *iron or steel, S. to S.*	1*
Shives—(*see* Bungs).	
Shoddy Manure, *in bags*—(as Packed Manure).	
Shoes and Boots—	
Leather, cut into Boot and Shoe Shapes, to be charged same as Boots and Shoes.	
Shoes, Boots, and Clogs, *old, in bags*	2
Shooks—(as Heads and Staves).	
Shot, *in bags, packed in casks*	
Show Cards and Labels, *cardboard, not framed, packed*	2
Show Cards and Labels, when accompanying other goods for same consignee, O.R., to be charged same as such goods.	
Shrubs, *garden*—(*see* Plants).	
Shrubs and Trees	3*y*
Silk Waste, *undressed*	3
„ *dressed or spun*	4
Sinks, *earthenware or fire-clay, not packed, exclusive of labour, O.R.* } Exceptional rates for Sanitary Tubes apply.	C
Sinks, *earthenware or fire-clay, packed* } Exceptional rates for Sanitary Tubes apply.	C
„ *cast iron, not enamelled*	2*y*
„ *enamelled*	3*y*
Skewers, *wooden, packed*	2
Skin Fibre, *for size*	2
Skins, *Hare and Rabbit, undressed*	2
Skins, *Sheep*—(*see* Sheep Skins).	
Skylights, *iron, cast or wrought, not packed, at O.R. only*	2
Slag, *glass* (*Refuse from Glass Works*)	B
Slate Beds of Billiard Tables, *packed in cases*	3*z*
Slate Slabs, *e.o.h.p.*	3*z*
Smallwares—(*see* Haberdashery).	
Smoke Cases, *for drain-testing, packed in cases*	3
Soapy Waste Water	C
Spades, *Children's*—(as Toys).	
Spale Swills or Spale Baskets, *coarse, in bundles, not packed nor wrappered*	
Spanish Juice—(as Liquorice).	
Spelter Dross—(as Metal Dross).	
Spetches, Scrows, and Pelts—	
Wet, from tanners, in bags	C
Wet, from tanners, not packed, exclusive of labour, O.R.	C

* Subject to special arrangement when of unusual length, bulk, or weight, or of exceptional bulk in proportion to weight.

y, *z*. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Spile Pegs—*when accompanying Ale for the same Consignee, to be charged at the rates for Ale.*	
Spinning Machinery, *old*—(*see* Carding).	
Spirits—	
In jars or bottles, containing 2 gallons or under	4
Jars and glass or earthenware bottles, only to be carried when protected by basket-work, and none exceeding 7 gallons in measure to be accepted for conveyance.	
Splints, *wood*	1
Spoons and Forks, *plated*—(*see* Plated Goods).	
Spoutings and Connexions, *iron or steel*	2*y*
Spouting and Guttering Wood—(*see* Guttering).	
Springs, *Carriage*	3
„ *Tramcar*	2
Spurs and Stilts, *earthenware*—(as Earthenware).	
Stable Fittings, *except enamelled iron or steel*	2*y*
Stable Fittings and Mangers, *enamelled, iron or steel*	3*x*
Starch Fibre	C
Steam Excavators or Steam Navvies, travelling on their own wheels	1
„ „ „ „ complete, loaded in Railway trucks —*To be charged at Exceptional rates for Machinery at O.R.*	
Steatite—(as Soapstone).	
Steel Sheets, $\frac{1}{8}$*th of an inch and under*	1
„ *above* $\frac{1}{8}$*th of an inch*	C
Stereotype Casts, *old, returned to be broken up*	2
Stone, *carved, for building purposes, e.o.h.p.*	2*x*
„ *decorative, carved, for decorating the interior of buildings*	4*y*
Stone-cutting and Crushing Machines	C
Stools, *common, small*	2
Stoves, *common or kitchen, &c.*—(*see* Grates).	
„ *Fire-clay, tile*	4*x*
„ *Gas or Oil*	3*z*
Straw, *machine-pressed (not hydraulic or steam-pressed), minimum* $2\frac{1}{2}$ *tons per truck, exclusive of labour, O.R.*	C
Not to apply to Straw that has not been compressed by the actual use of a compressing machine.	
Straw Elevators—(as Agricultural Machines and Implements).	
Straw Socks—	
In casks, cases, or boxes	3
In white rod hampers	4
E.o.h.p.	5
Strawboard Cuttings, *for paper-making, packed*	C
Sugar Candy, *in casks, cases, or boxes*	2
Sulphide of Barium, *in casks*	C
Sulphide of Sodium—(Also to be included in Alkali List)	C
Sulphite of Soda—(Also to be included in Alkali List)	C
Sulphuric Acid (or Oil of Vitriol), *exclusive of labour, O.R.*—	
In loose tanks, in Company's waggons	C
To be charged the gross weight, including the tank. Empty tanks to be charged at the Returned Empty rate.	
In loose tanks, in Owner's waggons.—*To be charged the gross weight, including the tank*	C
In Owner's tank waggons	C
Summer Houses, *wooden, in parts, packed in cases*—(as Joiners' Work)	
„ *S. to S., minimum charge as for 1 ton per waggon*	4
Sweepings, *Refiners'*	1

x, y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Swing Boats and Hobby Horses, *and their appurtenances, minimum charge as for* 1 *ton per waggon*	4*y*
Syrup (*not Fruit Syrup*), *in tins, packed in cases*	1
Tables, *cast iron or cast steel*	4*z*
„ (*Folding*), *common, packed in cases or bundles*	3*y*
Table Covers, *Oilcloth*	3
Table Ornaments, *common glass*	3*y*
Table Salt—(*see* Salt).	
Tanks—	
Cast iron	2*y**
Iron or Wooden (*not lined with lead*), *such as can be carried in an ordinary waggon*	2
Wooden, lined with lead	3*
Taps, *wood*	3
Tar, *Felt* (or Felt Varnish), *in casks*	1
Tarlatans	4
Tartaric Acid, *in casks or cases*	3
Teazles, *in cases, crates, hampers, or casks*	4
Tent Bottoms (*wooden*), *whole or in parts*—(as Joiners' Work).	
Terra Cotta Blocks or Bricks	20 per cent. over the rates for Fire Bricks.¶
Textile Fabrics—	
Goods made partly of Cotton, Linen, Wool, Silk, &c., if packed in trusses, packs, or bales	3
Tickets, *pasteboard, not printed*—(*see* Cards).	
Tin Crystals, *in casks or kegs*	2
Tobacco Leaf	2
Tomatoes, *in cases, with lids*	2
Tombstones—(*see* Gravestones).	
Tongues, *pickled, packed, in casks, boxes or cases*	2
Trees and Shrubs—(*see* Shrubs).	
Trelliswork, *iron or steel, expanded*	2
Troughs, *Cattle and other, iron or steel*	3*y*
Trunks, *Luggage*	4
„ *Wooden, new*	4
Tubes, *steam, brass or copper, old*	1
Tubing, *metallic, flexible*	2
Turnstiles, *in cases*	2
Not packed	3*y*
Turpentine, *Spirits of*—	
In basketed tins	4
In cans	4
Umbrella Sticks, *not in the rough*	3
Umbrellas, *if packed in trusses, packs, or bales*	3
Valves, *Gas or Water, iron or steel*	1*y*
Vans and Van Bodies, *furniture*—(*see* Furniture).	
Varnish, *black*—(*see* Black Oil).	
Vaseline, *in casks*	2
Vaseline Preparations—(as Drugs, *e.o.h.p.*)	
Vases—(*see* Lustres).	
Vats, *wooden, lined with lead*	3*

* Subject to special arrangement when of unusual length, bulk, or weight, or of exceptional bulk in proportion to weight.

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y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Vegetables—	
Carrots, *for Cattle feeding, in bulk (not bunched)*	10 per cent. over rates for Mangel Wurzel and Turnips for Cattle feeding. ¶
Potatoes, *in casks, barrels, hampers, or peds*, on and after the 1st July up to and including 31st March—	
In 2-ton lots and above	C
Less Lots	1
New Potatoes, from the 1st April up to and including 30th June—	
In 2-ton lots	1
Onions (*not peeled for pickling*)—	
Not packed, 3-ton lots, S. to S. } Exceptional rates for Vegetables in Class C apply.	C
Packed, 2-ton lots, S. to S. }	C
Celery, *in bundles, in 1-ton lots and under 2 tons* } Exceptional rates for Vegetables in Class C, *not* applicable.	1
Rhubarb, *in bundles, in 2-ton lots* }	C
Vegetables, *e.o.h.p.*—	
Loose, 3-ton lots	C
Packed, 2-ton lots	C
„ *in 1-ton lots and under 2 tons*	1
Vegetables, *in brine, 2-ton lots*	C
Vegetable Ivory, *packed*	2
Vegetable Washing Machines	4*y*
Velvet, *Cotton, if packed in boxes, cases, parcels, or hampers*	4
Venetian Red—(as Paints and Colours).	
Vent Linings, *fireclay*	C
Vitriol Stone	1
Vitriol, *Oil of*—(*see* Sulphuric Acid).	
Vulcanite—(*see* Ebonite).	
Vulcanized Fibre	3
Waggons, Picture Carts, or Vans (*Road*), *empty*—(as Furniture Vans).	
Waggons, *empty*—(*see* Carts and Waggons).	
Warps—	
Hemp, packed	2
Cotton and Linen, in bundles, protected by wrappers, or on beams protected by wrappers	3
Washing and Wringing Machines, *not packed, O.R.*	3
Washstand Tops, *marble, packed*	3*z*
Water Cans—(*see* Holloware).	
Water Meters	3*y*
Wax, *common, for sealing bottles*—(*see* Sealing Wax).	
Weaving Machinery, *old*—(*see* Carding).	
Weed Destroyer, *in casks or iron drums, or in bottles or tins packed in cases or casks*	1
Weighing Machines, *Road, Railway, and Cattle*	1
Wells (*cast iron*), *for public streets*	2*y*
Wheel Centres, *Locomotive*—(*see* Iron and Steel).	
Wheels, *Carriage, Coach, and Cart*	4*y*
Wheels and Rollers, *Emery*—(*see* Emery).	
Wheels, *Fly or Spur, not requiring a specially constructed vehicle for their conveyance, O.R.*—To be charged at the Exceptional rates for Iron in Class 1.	
Wheels, *Perambulator, Bicycle, and Tricycle, in bundles*	3
Wheels and Axles, *Locomotive Engine and Tender*—(*see* Axles).	
Whetstone or Honestones, *packed in casks or boxes*	2

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y, z. Reduced rate at O.R.

Article.	To be charged at Rates as for Class
Wicker-work—(as Baskets, *e.o.h.p.*).	
Winceys—(as Woollen and Worsted Goods).	
Winches, *Steam*—	
In Cases / *Not packed* } Exceptional rates noted for Machinery apply -	{ 2 / 3*y*
Window Frames—	
Cast or wrought iron, packed in cases - - - -	1
„ „ *not packed, at Owner's risk only* - - -	2
Wine Finings—	
In casks - - - - - - - - -	1
In jars - - - - - - - - - - - -	3
Wines, *in jars or bottles containing 2 gallons or under* - - *Jars and glass or earthenware bottles only to be carried when protected by basket-work, and none exceeding 7 gallons in measure to be accepted for conveyance.*	4
Wire, *iron or steel, e.o.h.p.* - - - - - - - - -	2*z*
„ *Insulated* - - - - - - - - -	4*y*
„ *Lead* - - - - - - - - - - - -	2*y*
Wood (*Circular*), *for frames of sieves and similar articles* - -	1
Wood Splints—(*see* Splints).	
Wooden Blocks for Paving. *Actual Machine Weight.* Exceptional rates for Deals apply.	
Wooden Blocks for Flooring (*Deal*). *Actual Machine Weight.* (Exceptional rates for Planed Boards apply) - - - - - -	1
Woodwork, *carved, for decorating the interior of buildings* - -	5*y*
„ *for the manufacture of Organs* - - - - - -	3
Wool Noils, Wool Tops—(as Wool, *Raw*).	
Wool Nips or Burrs - - - - - - - -	1
Wringing and Washing Machines—(*see* Washing).	
Yarn, *flax, hemp, tow, jute, and coir*—(as Yarn, Twist, and Weft, *cotton and linen*).	
Yeast, *in casks, ton lots* - - - - - - -	2
Yolk of Eggs, *in casks, or in jars or bottles packed in cases* - - - *Jars and glass or earthenware bottles only to be carried when protected by basket-work, and none exceeding 7 gallons in measure to be accepted for conveyance.*	4
Zinc, *Sulphate of*—(as Copperas, *e.o.h.p.*).	
Zinc Liquor (*for preserving wood*), *in casks* - - - - - -	1
Zoedone—(as Mineral and Aerated Waters).	

y, *z*. Reduced rate at O.R.

REDUCED CLASS RATES AT OWNER'S RISK.

TABLE of REDUCED CLASS RATES for ARTICLES marked with the letters "*x*," "*y*," or "*z*," one condition applicable to these modified rates being that the MERCHANDISE is carried at the OWNER'S RISK.

Class Rate not exceeding	Reduced Rates. Articles in List (*x*).	Articles in List (*y*).	Articles in List (*z*).	Class Rate not exceeding	Reduced Rates. Articles in List (*x*).	Articles in List (*y*).	Articles in List (*z*).	Class Rate not exceeding	Reduced Rates. Articles in List (*x*).	Articles in List (*y*).	Articles in List (*z*).
Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.	Per Ton.
s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
5 0	4 7	4 2	4 2								
5 10	5 5	5 0	4 7	55 10	50 5	47 6	44 7	105 10	95 5	90 0	84 7
6 8	5 10	5 10	5 5	56 8	50 10	48 4	45 5	106 8	95 10	90 10	85 5
7 6	6 8	6 3	5 10	57 6	51 8	48 9	45 10	107 6	96 8	91 3	85 10
8 4	7 6	7 1	6 8	58 4	52 6	49 7	46 8	108 4	97 6	92 1	86 8
9 2	8 4	7 11	7 6	59 2	53 4	50 5	47 6	109 2	98 4	92 11	87 6
10 0	9 2	8 4	7 11	60 0	54 2	50 10	47 11	110 0	99 2	93 4	87 11
10 10	9 7	9 2	8 9	60 10	54 7	51 8	48 9	110 10	99 7	94 2	88 9
11 8	10 5	10 0	9 2	61 8	55 5	52 6	49 2	111 8	100 5	95 0	89 2
12 6	11 3	10 10	10 0	62 6	56 3	53 4	50 0	112 6	101 3	95 10	90 0
13 4	12 1	11 3	10 10	63 4	57 1	53 9	50 10	113 4	102 1	96 3	90 10
14 2	12 11	12 1	11 3	64 2	57 11	54 7	51 3	114 2	102 11	97 1	91 3
15 0	13 4	12 11	12 1	65 0	58 4	55 5	52 1	115 0	103 4	97 11	92 1
15 10	14 2	13 4	12 6	65 10	59 2	55 10	52 6	115 10	104 2	98 4	92 6
16 8	15 0	14 2	13 4	66 8	60 0	56 8	53 4	116 8	105 0	99 2	93 4
17 6	15 10	15 0	14 2	67 6	60 10	57 6	54 2	117 6	105 10	100 0	94 2
18 4	16 8	15 5	14 7	68 4	61 8	57 11	54 7	118 4	106 8	100 5	94 7
19 2	17 1	16 3	15 5	69 2	62 1	58 9	55 5	119 2	107 1	101 3	95 5
20 0	17 11	17 1	15 10	70 0	62 11	59 7	55 10	120 0	107 11	102 1	95 10
20 10	18 9	17 11	16 8	70 10	63 9	60 5	56 8	120 10	108 9	102 11	96 8
21 8	19 7	18 4	17 6	71 8	64 7	60 10	57 6	121 8	109 7	103 4	97 6
22 6	20 5	19 2	17 11	72 6	65 5	61 8	57 11	122 6	110 5	104 2	97 11
23 4	20 10	20 0	18 9	73 4	65 10	62 6	58 9	123 4	110 10	105 0	98 9
24 2	21 8	20 5	19 2	74 2	66 8	62 11	59 2	124 2	111 8	105 5	99 2
25 0	22 6	21 3	20 0	75 0	67 6	63 9	60 0	125 0	112 6	106 3	100 0
25 10	23 4	22 1	20 10	75 10	68 4	64 7	60 10	125 10	113 4	107 1	100 10
26 8	24 2	22 6	21 3	76 8	69 2	65 0	61 3	126 8	114 2	107 6	101 3
27 6	24 7	23 4	22 1	77 6	69 7	65 10	62 1	127 6	114 7	108 4	102 1
28 4	25 5	24 2	22 6	78 4	70 5	66 8	62 6	128 4	115 5	109 2	102 6
29 2	26 3	25 0	23 4	79 2	71 3	67 6	63 4	129 2	116 3	110 0	103 4
30 0	27 1	25 5	24 2	80 0	72 1	67 11	64 2	130 0	117 1	110 5	104 2
30 10	27 11	26 3	24 7	80 10	72 11	68 9	64 7	130 10	117 11	111 3	104 7
31 8	28 4	27 1	25 5	81 8	73 4	69 7	65 5	131 8	118 4	112 1	105 5
32 6	29 2	27 6	25 10	82 6	74 2	70 0	65 10	132 6	119 2	112 6	105 10
33 4	30 0	28 4	26 8	83 4	75 0	70 10	66 8	133 4	120 0	113 4	106 8
34 2	30 10	29 2	27 6	84 2	75 10	71 8	67 6	134 2	120 10	114 2	107 6
35 0	31 8	29 7	27 11	85 0	76 8	72 1	67 11	135 0	121 8	114 7	107 11
35 10	32 1	30 5	28 9	85 10	77 1	72 11	68 9	135 10	122 1	115 5	108 9
36 8	32 11	31 3	29 2	86 8	77 11	73 9	69 2	136 8	122 11	116 3	109 2
37 6	33 9	32 1	30 0	87 6	78 9	74 7	70 0	137 6	123 9	117 1	110 0
38 4	34 7	32 6	30 10	88 4	79 7	75 0	70 10	138 4	124 7	117 6	110 10
39 2	35 5	33 4	31 3	89 2	80 5	75 10	71 3	139 2	125 5	118 4	111 3
40 0	35 10	34 2	32 1	90 0	80 10	76 8	72 1	140 0	125 10	119 2	112 1
40 10	36 8	34 7	32 6	90 10	81 8	77 1	72 6	140 10	126 8	119 7	112 6
41 8	37 6	35 5	33 4	91 8	82 6	77 11	73 4	141 8	127 6	120 5	113 4
42 6	38 4	36 3	34 2	92 6	83 4	78 9	74 2	142 6	128 4	121 3	114 2
43 4	39 2	36 8	34 7	93 4	84 2	79 2	74 7	143 4	129 2	121 8	114 7
44 2	39 7	37 6	35 5	94 2	84 7	80 0	75 5	144 2	129 7	122 6	115 5
45 0	40 5	38 4	35 10	95 0	85 5	80 10	75 10	145 0	130 5	123 4	115 10
45 10	41 3	39 2	36 8	95 10	86 3	81 8	76 8	145 10	131 3	124 2	116 8
46 8	42 1	39 7	37 6	96 8	87 1	82 1	77 6	146 8	132 1	124 7	117 6
47 6	42 11	40 5	37 11	97 6	87 11	82 11	77 11	147 6	132 11	125 5	117 11
48 4	43 4	41 3	38 9	98 4	88 4	83 9	78 9	148 4	133 4	126 3	118 9
49 2	44 2	41 8	39 2	99 2	89 2	84 2	79 2	149 2	134 2	126 8	119 2
50 0	45 0	42 6	40 0	100 0	90 0	85 0	80 0	150 0	135 0	127 6	120 0
50 10	45 10	43 4	40 10	100 10	90 10	85 10	80 10				
51 8	46 8	43 9	41 3	101 8	91 8	86 3	81 3				
52 6	47 1	44 7	42 1	102 6	92 1	87 1	82 1				
53 4	47 11	45 5	42 6	103 4	92 11	87 11	82 6				
54 2	48 9	46 3	43 4	104 2	93 9	88 9	83 4				
55 0	49 7	46 8	44 2	105 0	94 7	89 2	84 2				

*AGRICULTURAL ENGINES, MACHINES, &c.

SCALE OF CHARGES

FOR

Agricultural and Portable Steam and Traction Engines, Traction Engine Waggons, Vertical Steam Engines, Horizontal Steam Engines, Steam Ploughs, Steam Plough Vans, Steam Tramway Engines, Threshing Machines, Hay Pressing Machines, and Road Rollers (*complete, or in parts, loose, or packed in cases*).

Exclusive of Loading and Unloading and Carting.

Miles.	Minimum 2 tons and under 5 tons.	Minimum 5 tons.	Miles.	Minimum 2 tons and under 5 tons.	Minimum 5 tons.	Miles.	Minimum 2 tons and under 5 tons.	Minimum 5 tons.
	Per Ton. s. d.	Per Ton. s. d.		Per Ton. s. d.	Per Ton. s. d.		Per Ton.	Per Ton. s. d.
1	5 0	5 0	33	9 2	8 7	65	2d. per ton additional for each mile beyond 60 miles.	12 2
2	5 0	5 0	34	9 4	8 9	66		12 3
3	5 0	5 0	35	9 6	8 10	67		12 3
4	5 0	5 0	36	9 8	9 0	68		12 4
5	5 0	5 0	37	9 10	9 1	69		12 4
6	5 0	5 0	38	10 0	9 3	70		12 5
7	5 0	5 0	39	10 2	9 5	71		12 5
8	5 0	5 0	40	10 4	9 7	72		12 6
9	5 0	5 0	41	10 5	9 8	73		12 6
10	5 0	5 0	42	10 6	9 10	74		12 7
11	5 0	5 0	43	10 7	9 11	75		12 7
12	5 0	5 0	44	10 8	10 1	76		12 8
13	5 3	5 3	45	10 9	10 2	77		12 8
14	5 6	5 6	46	10 10	10 4	78		12 9
15	5 9	5 9	47	10 11	10 5	79		12 9
16	6 0	6 0	48	11 0	10 6	80		12 10
17	6 3	6 3	49	11 1	10 7	81		12 10
18	6 6	6 6	50	11 2	10 9	82		12 11
19	6 9	6 9	51	11 3	10 10	83		12 11
20	7 0	7 0	52	11 4	11 0	84		13 0
21	7 2	7 1	53	11 5	11 1	85		13 0
22	7 4	7 3	54	11 6	11 3	86		13 1
23	7 6	7 4	55	11 7	11 4	87		13 1
24	7 8	7 6	56	11 8	11 6	88		13 2
25	7 10	7 7	57	11 9	11 7	89		13 2
26	8 0	7 9	58	11 10	11 9	90		1½d. per ton to be added for each additional mile. Fractions of 1d. not to be charged.
27	8 2	7 10	59	11 11	11 10	and		
28	8 4	8 0	60	12 0	12 0	above.		
29	8 6	8 1	61	2d. per ton additional for each mile beyond 60 miles.	12 0			
30	8 8	8 3	62		12 1			
31	8 10	8 4	63		12 1			
32	9 0	8 6	64		12 2			

NOTE.—Articles carried at Rates in accordance with the foregoing Scale are not subject to the additions for articles of exceptional length, bulk, or weight, or of exceptional bulk in proportion to weight, whether charged at scale or at the Class 2 rate.

Shafts and Under-carriage sent with Portable Engines and Threshing Machines must be charged on the outward journey at the same rates as the Machines or Engines they accompany, and be returned free.

The terms "Vertical Steam Engines," and "Horizontal Steam Engines," as above apply generally, and are not limited to Agricultural Engines.

When the Second Class rate between any two Stations is lower than the rate as per the foregoing Scales, the Second Class rate may be charged, S. to S.

When Engines and Machines are returned to the makers, either for repairs or to be replaced by new Engines or Machines, the charge on such return journey to the makers is to be at half rates. The new or repaired Engines or Machines to be charged full rates under all circumstances. When Engines or Machines are sent on hire, they must be charged full rates on the outward journey, and half rates on the return. (This Regulation applies only when the Engines or Machines are returned within six months from the date of the outward journey.)

Agricultural Machines and Implements, including Agricultural Carts and Waggons (*except Steam Engines, Steam Ploughs, Steam Plough Vans, Threshing and Hay-Pressing Machines in lots of* 2 *tons or above, and Iron Harrows*) *at O.R.* - - - - - - - - - - 3rd Class.

In 1-ton lots, *at O.R.* - - - - - - - - - - 2nd Class.

Minimum charge when requiring more than 1 *waggon to be as for* 1 *ton per waggon, or the total consignment to be charged at the actual weight at the higher rate,* i.e., *the rate for quantities under* 1 *ton.*

Agricultural Machines and Implements, *in cases* - - - - - - - - 2nd Class.

Minimum charge when requiring more than 1 *waggon to be as for* 1 *ton per waggon.*

Harrows, *iron* - - - - - - - - - - - 2nd Class.

* In the case of traffic to London charged according to this Mileage Scale, the charges are applicable only to the Stations of the Company carrying the traffic into London, and not beyond to any other London Station.

(6.)

RAILWAY COMPANIES' ASSOCIATION to BOARD OF TRADE.

General Manager's Office,
King's Cross Station, London, N.,
March 22, 1893.

DEAR SIR COURTENAY BOYLE,

IN reply to your telegram on the subject of the settlement with the timber trade, I cannot do better than send you copy of minute passed at a meeting of Goods Managers held on the 20th instant, which was confirmed by the General Managers yesterday.

These terms were agreed to at a meeting between the representatives of the Companies and the timber trade.

Yours faithfully,
(Signed) H. OAKLEY.

Sir Courtenay Boyle, K.C.B.,
Board of Trade, S.W.

[Enclosure.]

Timber.

G. 983. Read—General Managers' Minute 168, as under:—

"168. It was referred to the Goods Managers' Conference to frame rate book conditions for the purpose of giving immediate effect to the memorandum [as under]:—

"MEMORANDUM OF SETTLEMENT OF TIMBER QUESTIONS.

"March 17, 1893.

"1. Upon foreign timber, round or other—

"Last year's Clearing House classification system of charging to be reverted to; and inasmuch as in certain cases the rates of last year have been reduced by the new statutory powers, advances in other cases are not to be objected to, provided they do not exceed about 5 per cent. over last year.

"2. Upon English round timber—

"Last year's Clearing House classification system of charging to be reverted to. The Railway Companies will revert to the 144 divisor at the desire of the trade, as now expressed, on the understanding that last year's rates and arrangements are continued, the loading charge, however, being reduced to 1s. per ton all round, and that the measurement be taken by tape over bark.

"3. Date.—The whole of the arrangements now come to are to apply retrospectively as from 1st January 1893."

Rate Book conditions.

Resolved—That rate book conditions, as follow, be adopted:—

TIMBER.

Exceptional rates noted herein for timber are subject to the following conditions, viz.:—

1. In the measurement of round timber, when carried at measurement weight, the divisor of 144 is applied, measurement being taken by tape over bark.

2. If debenture or waney-edged and defective-angle timber be measured by tape or string, the 144 divisor may be used, but in such case the allowances of 25 per cent. and 15 per cent. respectively made when measured by calliper will not apply.

3. Riga blocks 9 feet long by 10 inches wide and 10 inches deep are charged as deals, battens, and boards at measurement weight, at 50 feet to the ton.

4. Lathwood is charged per square fathom, or 36 square feet, 9 cwts. per foot in length.

5. All round timber in pieces of or over 4 tons measurement to be charged, up to 6 tons, 25 per cent. over usual rates; over 6 tons, 50 per cent. over usual rates.

6. 50 feet (instead of 40 feet, as per general railway classification) of the following descriptions of timber to be taken as equivalent to a ton at measurement weight:—

Elm,	Rosewood,
Birch (except logs),	Satinwood, and
Lancewood,	Walnut.
Maple,	

7. The charge for loading round timber, exclusive of haulage to the crane where the timber has been previously deposited at a distance therefrom, is 1*s.* per ton.

(1.)	(2.)	(3.)	(4.)	(5.)
The following are charged at Exceptional Rates noted for Deals, Battens, and Boards, or, in the absence of Exceptional Rates, at Class C. Rates, in Consignments of 2 Tons and upwards.	The following are charged 10 per cent. OVER the Exceptional Rates noted for Deals, Battens, and Boards, or, in the absence of Exceptional Rates, at 10 per cent. over the Class C. Rates, in Consignments of 2 Tons and upwards.	The following are charged 20 per cent. OVER the Exceptional Rates noted for Deals, Battens, and Boards, or, in the absence of Exceptional Rates, at 20 per cent. over the Class C. Rates, in Consignments of 2 Tons and upwards.	The following are charged 10 per cent. LESS than the Exceptional Rates noted for Deals, Battens, and Boards, or, in the absence of Exceptional Rates, at 10 per cent. less than the Class C. Rates, in Consignments of 2 Tons and upwards.	The following are charged at Class C. Rates, at Measurement Weight.
Deals, battens, and boards (not exceeding 4 inches in thickness) of fir and pine other than Pensacola or pitch pine deals, battens, and boards — At 66 cubic feet to the ton. Any of the following sawn into planks, or sawn or hewn into logs:— Alder, Ash, Beech, Birch, Elm, Fir, Hornbeam, Larch, Oak, Pine, Pitch Pine, Plane, Poplar, Spruce, Sycamore, Teak Stavewood (not staves). Lathwood (not laths). Posts and rails for fencing Sleepers, wood (*including creosoted*) Stonewood Telegraph, telephone, ricker, and scaffold poles — Machine weight. Pensacola and pitch pine deals and battens (not exceeding 4 inches in thickness) Paving blocks, wood	Boards, flooring, prepared, or other planed or prepared boards — Measurement weight. Flooring blocks, deal — Machine weight.	Pensacola or pitch pine deals, battens, and boards (not exceeding 4 inches in thickness) Telegraph, telephone, ricker, and scaffold poles Pitwood, for mining purposes — Measurement weight.	Pitwood for mining purposes — Machine weight.	Baywood. Cedar. Cherry tree wood. Hickory, *unsawn*. Jarrah wood. Lancewood, *unsawn*. Mahogany. Walnut.

G. 984. Resolved—That all exceptional rates in force at 31st December last for British round timber be re-adopted. — Exceptional timber rates.

G. 985. Resolved—That where debenture or waney-edged and defective angle timber is measured by string (under Rate Book Condition No. 2 of the preceding Minute G. 983), a suitable check be periodically made by the Companies to ensure correct measurement. — Defective angle timber by String.

(7.)

CIRCULAR LETTER from BOARD OF TRADE to the RAILWAY COMPANIES.

Board of Trade (Railway Department),
London, S.W., March 14, 1893.

Letters numbered (1.), (2.), (3.), (4.), (5.), (21.), (22.), (23,), (27.), (28.), (37.), (40.).

Sir,

I am directed by the Board of Trade to request that you will be good enough to lay before the Directors of your Company the enclosed copy of correspondence between the Board of Trade and the Railway Companies' Association, with regard to the revised rates charged for the conveyance of merchandise traffic.

I am to call special attention to the letter of the Board of Trade to the Chairman of the Railway Companies' Association, dated February 28th, and to the reply of the Association, dated March 1st, and to state that the Board of Trade will be glad to learn at as early a date as possible what steps your

Company propose to take with the object of removing the very general complaints made.

I am, &c.
(Signed) COURTENAY BOYLE.

ENGLAND AND WALES.

(8.)

BARRY RAILWAY COMPANY.

General Manager's Office, Barry,
March 18, 1893.

SIR,

YOUR circular letter of the 14th instant, addressed to our Secretary, has been handed to me.

Taking the five stations at which we transact goods business, I find that 85 rates have been reduced, 25 have remained unaltered, and 64 have been slightly advanced, and these advances are principally due to our minimum distance being increased to four miles. We have no complaints in regard to our local rates.

With regard to through rates. The majority of these are the same to Barry as to Cardiff. Some of these rates are complained of, and I am strongly pressing the other interested Companies to revert to the old rates. I shall continue to press them to do this.

Yours truly,
(Signed) R. EVANS.

Sir Courtenay Boyle, K.C.B.,
(Railway Department),
Board of Trade, London.

(9.)

BRECON AND MERTHYR RAILWAY.

Secretary's Office,
132, Palmerston Buildings, Old Broad Street, E.C.,
London, March 24, 1893.

SIR,

YOUR communication and enclosures of the 14th instant were submitted to my Directors to-day, and I am instructed to inform you that there have been very few complaints made respecting the rates we have arranged under our new powers, and those we have had no difficulty in satisfying.

I am, &c.
(Signed) H. R. PRICE,
Secretary.

To the Assistant Secretary,
(Railway Department),
Board of Trade, S.W.

(10.)

CAMBRIAN RAILWAYS COMPANY.

Secretary and General Manager's Office,
Oswestry, March 8, 1893.

SIR,

IN reference to your letter of the 28th ultimo, addressed to the Chairman of the Railway Association, and the resolutions passed the same day by the Association, copies of which have been sent on to you by Sir Henry Oakley.

With regard to these resolutions I may inform you that this Company are doing all they possibly can to complete the revision of rates at the earliest possible date, and I may safely say that there are very few complaints remaining to be dealt with in this district.

As the Board of Trade are aware, the new divisor of 113 for measuring round timber is affecting this district considerably, and this Company have taken active steps to bring about some modification in regard to the new

divisor, and the General Managers will have the question before them again this week. It is, however, only fair to place on record the fact that, even with the 113 divisor, the Companies in many instances are still carrying (with the exception of ash) more than 20 cwt. to the ton, and, as a proof of this, I have to submit the enclosed statement (A.), which shows the actual weights and the measurements ascertained on the 144 and 113 divisor respectively.

Let me add that larch for mining purposes is the principal timber which is sent away from this district, and it will be observed that in this case the 113 divisor represents no less than 25 cwt. to the ton.

I may mention that nearly the whole of our old round timber rates have been reinstated, and where, in one or two instances, the rates have been increased by 5*d.* per ton, it is justified on the ground of distance, and with a view to place them on a uniform basis.

For the information of the Department I beg to enclose further statements, B. and C., showing the rates now in operation for round timber for mining purposes from this line to the mining districts.

I am also desired by my Directors to inform the Department that in the case of Birkenhead and Liverpool the rates to and from this district have been considerably reduced from the 1st January last, and in order that the Board of Trade may have data with regard to these reductions before them, I beg to enclose a complete list, statement D., of the revised rates compared with the old figures.

Except where underlined in blue, it will be observed that out of 1,061 rates no less than 956 have been reduced, and only 105 increased.

These rates represent to this Company 23,781 tons of inwards merchandise alone during the past year, so it will be apparent that we shall be incurring a considerable loss in revenue by these reductions.

It is as well that the Department should understand that this has been brought about entirely by the new maxima of the Companies interested in this traffic.

I may further state that in the case of the live stock rates we have, since the 1st January, made many important concessions for short distance traffic.

Reductions have also been made since the 1st January in the grain and packed manure rates, which will be of considerable advantage to agriculturalists.

My Directors think it is only right the traders should know that the maximum rates of conveyance given to this Company by its original Acts, on the good faith of which the capital of this Company has been subscribed, compared with the new maxima, have been reduced by about 25 per cent.

This is an important factor in the matter which the traders ought not to lose sight of in regard to the recent revision.

I am, &c.

(Signed) ALFRED ASLETT,
Secretary and General Manager.

Sir Courtenay Boyle, K.C.B.,
Board of Trade, London.

(11.)

Secretary and General Manager's Office,
Oswestry, March 21, 1893.

Sir,

With reference to my letter of the 8th instant to the Board of Trade, acknowledged by your letter of the 10th instant, in regard to the difficulty which had arisen with the trade and the growers of round timber owing to the Companies having agreed from the 1st January to ascertain the measurement and weight of timber on the 113 divisor instead of 144, you will doubtless be very pleased to learn that at a lengthy conference between the timber trade from all parts of the country, and the Companies, at which several of the large land proprietors in Wales were represented, including Earl Powis and the Marchioness of Londonderry, held at the Railway Clearing

House on Friday afternoon, a satisfactory understanding was come to on the subject of the rates and conditions, including the divisor, in respect of square and round timber traffic.

Sir Henry Oakley will, of course, communicate with you officially on this subject, but as this Company has been so seriously affected by the disturbance in the timber trade, occasioned mainly by the introduction of the 113 divisor, I hasten to inform you that all complaints by the traders and the public generally on this head will now be withdrawn.

The Railway Companies go back to the 144 divisor, and they have also pledged themselves that the new rates shall in no case exceed those in operation in 1892 beyond 5 per cent.

The Railway Companies further agreed to reduce the charge for loading timber from 1*s.* 6*d.* to 1*s.* per ton. It is unnecessary for me to say this will represent a considerable loss of revenue to the Railway Companies, and this Company alone will lose in this respect about 600*l.* a year.

For these concessions the traders agreed on their part to accept measurement by tape *over* bark, a subject of dispute for many years past.

I am, &c.

(Signed) ALFRED ASLETT,
Secretary and General Manager.

Sir Courtenay Boyle, K.C.B.,
Board of Trade (Railway Department),
London.

(12.)

Secretary and General Manager's Office,
Oswestry, April 21, 1893.

SIR,

WITH further reference to your letter of the 23rd ultimo, in reply to mine of the 21st March, I have to inform the Department that, after very careful consideration, this Company has now come to a decision with regard to its local rates.

It has been a matter of very considerable difficulty, inasmuch as the rates in respect of the various sections of the line, which at one time were separate undertakings, and now consolidated in one concern, including the Mid Wales Section, which has been worked by the Cambrian Railways Company since April 1888, were not on a uniform basis.

The Board of Trade will therefore recognise that it was very desirable to put these on a sound and uniform basis, and this, I trust has been accomplished in the following manner:—

(*a.*) On distances of 20 miles exclusive, the finally revised rates will be 15 per cent. less than the maximum powers.

(*b.*) On distances of 20 miles and up to 40 miles exclusive, the finally revised rates will be 10 per cent. less than the maximum powers.

(*c.*) On distances of 40 miles and upwards, the finally revised rates will be on the basis of the Normanton Scale, which, in many instances, will involve some reduction below the maximum powers.

With regard to rates, including cartage, I may state that this Company will be prepared to allow the following cartage rebates to the public, on application being made for the allowances.

	Classes.				
	1.	2.	3.	4.	5.
Allowance - - - - - -	10*d.*	1*s.*	1*s.* 4*d.*	1*s.* 8*d.*	2*s.*

Prior to 1st January this year, no cartage drawbacks were allowed by this Company to the public at stations where we had no cartage staff, and this in itself will be an important concession.

Cartage allowances at competitive stations are now under consideration by the several Railway Companies.

There will, of course, be many questions of rates to be dealt with on their own merits, and these, I may add, are closely in hand.

Sir Henry Oakley has already informed you, in his communication of the 12th instant, that a very large number of changes in the classification have been adopted, which will have the effect of levelling down the rates.

Sir Henry also referred, in his letter to you, to the numerous alterations in the conditions under which traffic is carried, which have been agreed upon, and I trust that these, in conjunction with the revision we have now made in the local rates, will have the effect of satisfying the demands which have been made upon us by the traders and the public. If, however, this should not be the case, the Department may rest fully assured that no effort on our part will be spared to bring about a satisfactory understanding, which my Directors are so anxious to see accomplished.

I am, &c.
(Signed) ALFRED ASLETT,
Secretary and General Manager.

Sir Courtenay Boyle, K.C.B.
Board of Trade,
(Railway Department), S.W.

(13.)

CHESHIRE LINES COMMITTEE.

Manager's Office, Liverpool,
March 20, 1893.

Sir,

In reply to your circular letter of 14th instant, enclosing copy of correspondence between the Board of Trade and the Railway Companies' Association, with regard to the revised rates charged for the conveyance of merchandise traffic, and asking me to submit the same for the consideration of my Directors, I have to state that the whole question has already been under the consideration of my Committee, and they have requested me to convey to you the following information:—

1. That as regards the local rates, charged for the conveyance of merchandise traffic over this railway, a considerable number of reductions were made upon the old rates when the revised lists were issued on the 1st January last, and in addition to this, a very large proportion of the exceptional rates which were formerly in operation have been continued.
2. That as regards the advances made in some of the class rates, instructions have already been given to readjust these, so that no increases shall be made which would interfere either with trade or agriculture, or in any way diminish traffic.
3. While no hard and fast rule can be laid down as applying equally to every description of traffic, no increase, either in the class or exceptional rates will, unless under exceptional circumstances, exceed 5 per cent. upon the old rates.
4. That all reductions made on this basis shall apply as from the 1st January last.
5. As regards the question of milk rates, these were reduced on this railway on February 10th, 1893, to the same rates as were in operation last year.
6. That in common with the other Railway Companies we have made considerable modifications in regard to the carriage of "smalls," and have also granted considerable concessions to the timber trade.

I have, &c.
(Signed) L. MELDRUM,
Manager.

The Assistant Secretary,
(Railway Department),
Board of Trade, London, S.W.

(14.)

CLEATOR AND WORKINGTON JUNCTION RAILWAY COMPANY.

Secretary and General Manager's Office,
Workington, April 1, 1893.

DEAR SIR,

I AM favoured with your letter of the 14th instant, which was laid before my Directors in due course, and in reply thereto am instructed to state for your information that none of the rates for minerals have been increased on this line.

With regard to rates affecting classes 1 to 5, I am further requested to state that this is a competitive railway, and in a measure subservient to other railways in the district. These class rates were somewhat increased, but steps are now being taken, so far as this Company is concerned, to restore them as far as possible to their original figures.

I would further add that we are taking this action for the present, notwithstanding the fact of these rates not being sufficiently remunerative to pay any interest on our ordinary stock.

I have, &c.
(Signed) J. PRIOR.

To the Assistant Secretary,
(Railway Department),
Board of Trade, London, S.W.

(15.)

CROESOR RAILWAY COMPANY.

SIR,

Portmadoc, March 21, 1893.

OUR railway being the Portmadoc, Croesor, and Beddgelert Tram Railway Company, has only small traffic consisting of slate, and the old rates that were in force prior to the passing of the Railway and Canal Traffic Act, 1888, are still extant, as we were bound by agreements existing between the slate quarry proprietors and our Company.

No alterations were made in our rates.

I remain, &c.
(Signed) J. E. JONES,
Secretary.

The Assistant Secretary,
(Railway Department),
Board of Trade, S.W.

(16.)

EASTERN AND MIDLANDS RAILWAY COMPANY.

London Office, Victoria Chambers,
17, Victoria Street, Westminster, S.W.,
March 8, 1893.

SIR,

I HAVE to acknowledge the receipt of your letter of yesterday's date, enclosing a copy of a letter addressed to the Board of Trade by Mr. H. R. Johnson of Sheringham.

With reference to this and other previous communications, I beg to inform you that instructions have been given to the officers of this Company, on the subject of the revision of rates, similar to those contained in the letter dated the 2nd instant addressed to you by the Chairman of the Midland Railway Company.

I am, &c.
(Signed) ROBT. A. READ.
Chairman.

To the Assistant Secretary,
(Railway Department),
Board of Trade, Whitehall, S.W.

(17.)

17, Victoria Street, Westminster, S.W.,
April 13, 1893.

SIR,

WITH reference to the communication which I had the honour of addressing to you on the 8th ultimo, I beg to inform you that the revision of the new rates on this line which come into operation on the 1st of January last has now been completed, and that in all cases where these rates exceeded the rates in operation previous to the 1st of January they have been reduced, except in a few instances, to the level of the old rates.

As regards the exceptions, the increase over the old rates in no case exceeds 5 per cent.

I am, &c.
(Signed) ROBT. A. READ,
Chairman.

To the Assistant Secretary,
(Railway Department),
Board of Trade, Whitehall, S.W.

(18.)

FESTINIOG RAILWAY COMPANY.

Secretary's Office,
Portmadoc, March 15, 1893.

SIR,

I HAVE the honour to acknowledge the receipt of your communication of the 14th inst., with copy of correspondence between the Board of Trade and the Railway Companies' Association, and in answer to same beg to say that there has been no complaint made against this Company in regard to rates and charges, no alteration having been made in same.

I am, &c.
(Signed) J. S. HUGHES,
Secretary.

The Assistant Secretary,
(Railway Department),
Board of Trade, London.

(19.)

FURNESS RAILWAY COMPANY.

Barrow-in-Furness,
March 28, 1893.

SIR,

YOUR communication of the 14th inst. has been submitted to my Directors, and I am instructed to inform you that they have given orders that the rules and conditions for the revision of the rates adopted by the principal Railway Companies shall be followed by our officers as nearly as circumstances will permit, and all reductions in through rates agreed to by other Companies will be accepted by the Furness Company.

The local class rates on the Furness line were, however, before the 1st of January last, based on a much lower scale than was adopted by other Companies; and my Directors think it only fair that we should now be permitted to bring up those rates to something nearer to what has hitherto been charged by other railways.

Reductions are being made almost daily to meet, as far as practicable, all reasonable requirements of traders.

For agricultural produce we are adopting low special rates wherever the traffic can be sent in four-ton lots and upwards. Our special rates applicable to two-ton lots are lower than those charged by other Companies generally.

We hope to have the whole of the rates revised and adjusted in the course of another week or two, and by that time we have every hope of satisfying all reasonable expectations on the part of any trader.

I am, &c.
(Signed) H. COOK,
Secretary.

The Assistant Secretary,
(Railway Department),
Board of Trade, London, S.W.

(20.)

GARSTANG AND KNOT END RAILWAY COMPANY.

SIR, Garstang, March 15, 1893.

I BEG to acknowledge the receipt of your circular letter of yesterday's date.

There have been no complaints made against our rates. I may say we carry no milk, but our traffic is, in other respects, chiefly agricultural produce. Hay and straw and potato rates are as prior to the 1st January, 1893. Turnips are very considerably reduced, peat moss also, making a difference of nearly 50 per cent. less to this Company, as compared with the old rates. The reduction in turnips and peat moss terminals seriously affects our revenue. There was no sense in making the reduction in peat moss, which is very liable to fire, and needs most careful loading, sheeting, and roping.

I am, &c.

To the Assistant Secretary, (Railway Department), Board of Trade, London, S.W.

(Signed) J. NOBLE, Secretary.

(21.)

GREAT EASTERN RAILWAY COMPANY.

SIR, March 3, 1893.

WITH reference to your letter of the 28th February, addressed to the Chairman of the Railway Association, and to the resolutions passed at the meeting of that Association on the 1st inst., I have now the honour to state, for the information of the Board of Trade, that the Directors of this Company have instructed their officers so to arrange the rates and charges as to bring them as far as possible in accord with the rates charged to traders and others before the 1st day of January 1893.

The above course will entail upon the Company a considerable loss in their revenue, but any rates which may be advanced will be so fixed as to avoid, in the absence of special circumstances, any increase beyond 5 per cent. over and above those rates which were in force at the end of the year 1892.

In 1886, on account of the depression which affected so severely the agricultural districts served by the Great Eastern Railway, this Company reduced the rates for the carriage of grain, oil-cake, and packed manures, notwithstanding that the rates then in force were already below the rates generally in operation. The Directors propose, for the present, to allow these reduced rates to remain.

The numerous rates which have compulsorily been reduced in consequence of the provisions of the Act of 1891 applying to this Company will, of course, remain as so reduced.

The Directors must, however, in justice to the shareholders of this Company, reserve the right in the future, when trade revives, or the agricultural interest improves, or other circumstances will allow, of moderately increasing several rates which have, on this railway, been exceptionally reduced during many years past.

The work of revising the rates is still being proceeded with from day to day in conjunction with the managers of the other Railway Companies; but the rates between the Company's own stations number some millions; and there are, in addition, many millions of through rates also to be adjusted with other Companies, and time is therefore required to carry out the necessary details.

The revision will take effect from the 1st day of January 1893, and settlements will be made with traders and others in accordance therewith.

I am, &c.

(Signed) CHAS. H. PARKES, Chairman.

(22.)

GREAT NORTHERN RAILWAY COMPANY.

Board Room, King's Cross Station,
London, March 3, 1893.

SIR,

WITH reference to your letter of the 28th February, and to the reply of the Secretary of the Railway Companies' Association thereto, my Board desire me to make known to you, and through you, to the public, the course which will be followed by this Company to give effect to the resolution of the Association, that all reasonable concessions will be made by the Railway Companies to traders, in addition to the reductions already compulsorily made under this Company's Rates and Charges Act, 1891 :—

1. No rates to be raised that will injuriously affect either the trade or agriculture of the country.
2. Rates current in 1892, which were below the ordinary level, may be moderately increased, subject to the above condition.
3. No precise rule can be laid down equally applicable to all descriptions of traffic, but in completing the present revision no increase will, unless under exceptional circumstances, exceed 5 per centum above the rates of 1892.

The revision will be completed as promptly as possible, taking effect from the 1st January 1893, from which date all overcharges will be repaid.

It is hoped that this explicit statement of the intentions of this Company will satisfy the Board of Trade and the public, that any additions to the rates of 1892 will be moderate, and be only made in cases were they can be fairly and reasonably charged.

I am, &c.
(Signed) COLVILLE OF CULROSS,
Chairman, Great Northern Railway.

To the Right Hon. A. J. Mundella, M.P.,
President of the Board of Trade, S.W.

(23.)

GREAT WESTERN RAILWAY COMPANY.

General Manager's Office,
Paddington Station, London, W.,
March 3, 1893.

DEAR SIR COURTENAY,

IN order that the President of the Board of Trade may have before him some definite information as to the reductions which have been compulsorily made in this Company's rates, in consequence of the reduced powers which came into operation on the 1st January 1893, I have the pleasure to send herewith lists of rates as illustrations. They include—

(*a.*) Examples of reductions in coal and coke rates.

(*b.*) Examples of reductions in general merchandise rates.

The latter are rates from the following 24 typical stations out of 765 stations upon the Great Western Railway, and represent about 30,000 reductions.

Reading.	Truro.	Shrewsbury.
Newbury.	Frome.	Worcester.
Swindon.	Weymouth.	Dolgelly.
Bath.	Gloucester.	Wrexham.
Bristol.	Hereford.	Birkenhead.
Taunton.	Oxford.	Haverfordwest.
Exeter.	Trowbridge.	Merthyr.
Plymouth.	Birmingham.	Cardiff.

The class rates from the 24 stations named to all Great Western stations have been counted, with the result that more than half of them are shown to have been compulsorily reduced; and it is believed that this fairly represents

the effect of the reduced powers upon the class rates from the other stations of the Company.

As confirming this view, it may be stated that the class rates from Paddington Station to stations on the Great Western system have been counted, and are found to amount to 4,297. Of that number 2,237, or more than one half, are reductions.

It will be borne in mind that each class rate applies to an average of about 300 articles.

Since the publication of the rates on the 16th December, you are aware that a continuous revision has been going on, and will be proceeded with until we have had an opportunity of carefully looking into the cases of the freighters, who have had in the past, or may consider themselves entitled to, exceptional rates.

The number of exceptional rates which have been arranged since 16th December last up to and including to-day is 872,864, and the principal descriptions of traffic affected by the reductions referred to are as follows :—

Agricultural implements.
,, seeds.
Apples.
Cider.
Flour.
Grain of all descriptions.
Hay.
Manure.
Oil-cake.
Potatoes.
Roots for cattle feeding.
Straw.
Vegetables of all descriptions.
Ale and porter.
Alkali.
Bricks.
Cement.
Chalk.
China clay.
Cinders.
Clay retorts.
Copperas.
Creosote.
Drysalteries.
Gannister.
Groceries.
Hemp and flax tow.
Hides.
Iron and steel.
Lead.
Lime.
Limestone.
Leather.
Machinery.
Oils
Oranges and lemons.
Paper.
Paper-making materials.
Provisions.
Roadstone.
Salt.
Sand.
Slates.
Scrap-iron.
Soap.
Spelter.
Spetches and pelts.
Stone.
Sugar.
Tiles, common.
Timber of all descriptions.
Tin plates.
Treacle.
Whiting.

It may further be explained that not only have exceptional rates been adopted, but arrangements have been made to apply the rates for a lower class to articles in a higher class of the Statutory Classification. The number of reductions of this character is 672. These concessions are not confined to the Great Western Railway, but apply to those articles when exchanged with any of the Companies parties to the Railway Clearing House ; and therefore may be taken as bringing about reductions in many millions of rates.

I take the opportunity of enclosing a copy of the circular which I addressed to traders having ledger accounts with the Company, about 5,700 in number.

The response to the circular has been of a very encouraging character, and we have every reason to believe that our customers are willing to give us the necessary time to consider their objections ; and, in the meantime, it is clearly understood that any rates reduced in the revision will apply as from the 1st January 1893.

In conclusion I may point out that there is no Company more affected than the Great Western Company by water competition, and the circumstances which govern competition generally will continue in the future as they have

done in the past, and must of necessity be taken into consideration in the revision of our rates.

Yours faithfully,

Sir Courtenay Boyle, K.C.B., (Railway Department), Board of Trade.

(Signed) HY. LAMBERT.

Note.—The enclosures are too voluminous to print.

(24.)

ISLE OF WIGHT RAILWAY COMPANY.

Secretary's Office,
Sandown, Isle of Wight.
March 17, 1893.

SIR,

IN reply to your letter of the 14th inst., the Directors are happy to state that the only complaint so far is with regard to the rates for perishable traffic, and that these have been adjusted to the satisfaction of the traders.

I am, &c.

Sir Courtenay Boyle, K.C.B., (Railway Department), Board of Trade, London, S.W.

(Signed) H. K. DAY, Interim Secretary.

(25.)

THE ISLE OF WIGHT CENTRAL RAILWAY COMPANY.

3, Lothbury, London, E.C.
April 19, 1893.

SIR,

YOUR letter of 14th March has now been submitted to my Board, and I am instructed to inform you in reply that our Manager informs us that he has received no written complaints whatever regarding the new rates of this Company.

I am, &c.

The Assistant Secretary, Railway Department, Board of Trade, S.W.

(Signed) F. L. BEARD, Secretary.

(26.)

LANCASHIRE AND YORKSHIRE RAILWAY COMPANY.

Secretary's Office, Manchester,
March 6, 1893.

SIR,

A COPY of the letter addressed by you on the 28th February last to the Chairman of the Railway Association has been submitted to my Directors, and in reply thereto I am desired to point out that the Act of Parliament dealing with the rates of this Company did not receive the Royal Assent until the 20th June 1892, and that it was enacted that the revised rates should come into force on the 1st January 1893, the books having to be ready for public inspection 14 days previously, so that the enormous amount of work involved in the recalculation of many millions of rates had to be attempted to be done in rather less than six months. The rates to be revised consisted of:

The local rates of the Company;
The rates between points where other companies also carry as to which they had to be consulted; and
Through rates, some of which apply to traffic in which many companies are interested, all of whom had to be consulted.

The magnitude of this task rendered it absolutely impossible to complete it by the 1st of January last, and though the Board of Trade in December last extended the time to the 28th of February, within which revised rates involving increases might be entered in the books, they stipulated that the

rate books should be ready for inspection on the 16th of December as far as completed, and it became necessary in order to issue the books by such prescribed date to enter many of the rates at the maximum authorised charges until the detailed revision which was still proceeding could be completed.

In addition to the ordinary class rates, there have existed for many years a very large number of exceptional or special rates, which have been made to meet the requirements of trade. It was found that, owing to changed conditions, many of these exceptional rates had become obsolete, and such rates were omitted from the new books, but owing to the necessarily hurried way in which the work had to be done, some of the rates so omitted have since been found to be required, and exceptional rates have again been made. The work of revision has continued since the rate books were issued, the officers having been in continuous consultation with those of other companies for the purpose, and a very large number of rates have been altered so as to satisfy the wishes of traders.

In dealing with the revision the Company is guided by the following principles, viz. :—

1. That full effect must be given to reductions necessitated by the new Act of Parliament.
2. That in cases where advances can fairly be justified they should be moderate and, save in exceptional cases, should not exceed five per cent.

Strong pressure has been put upon the company to return to the rates in operation before the 1st January last, except as regards those which have been diminished under the Act of Parliament of last year. The Directors wish to point out that it would be very difficult, if not absolutely impossible, to do this, as the new scale of rates applies to an altered classification and conditions, besides many anomalies existing in the old rates to the prejudice of competing traders which it was desired to remove would be continued; moreover, it would be unjust to the shareholders of the company if they were precluded from exercising to a moderate and reasonable extent the statutory powers conferred by the new Act.

It seems to this company that the better course is to continue the revision on the principles set out above.

A compulsory alteration of rates altogether in a downward direction would be peculiarly unjust to this Company, inasmuch as from the short distances many kinds of traffic pass over the railway, the amount of profit that can be obtained is very small and altogether inadequate to give a fair return to the shareholders on their capital. The nature of the country through which the railway has been made, the high price which has had to be paid for the land, and the exceptional expenses of purchasing coal and other minerals underlying the line, has rendered the cost of the undertaking excessively large, being, in fact about double the cost per mile of the average of the whole of the railways in the country.

The Company has no desire to injure any industry of the country ; they quite recognise that the present is a period of great depression both in trade and agriculture, and they are anxious to carry out the revision as speedily as possible, and they doubt not that the whole question may thereby be settled between themselves and their customers to their mutual satisfaction. The amount of detail work, however, is such that with every possible exertion some weeks must elapse before the work can be completed.

The Directors trust, therefore, to the forbearance of the public, and undertake that the reductions that are made shall date from the 1st of January last.

I am particularly desired to repeat that no effort shall be wanting on the part of this Company to arrive at a fair and reasonable settlement of this important matter as speedily as possible.

Yours obediently,

(Signed) C. W. BAYLEY,
Secretary.

Sir Courtenay Boyle, K.C.B.,
(Railway Department),
Board of Trade. London.

(27.)

LONDON AND NORTH-WESTERN RAILWAY COMPANY.

Secretary's Office, Euston Station, N.W.
March 3, 1893.

SIR,

REFERRING to your communication dated the 28th February, addressed to the Chairman of the Railway Association and the resolutions subsequently passed by the Association on that date (copies of which have been forwarded to you by Sir Henry Oakley), I have to inform you that your letter and the reply of the Railway Association have been considered by the Directors of the London and North-Western Railway Company.

Referring to the resolutions I am instructed to inform you that this Company are, and have for some time past, been endeavouring to complete the revision of rates consequent upon the coming into force of the new maximum scales, and in so doing have been meeting traders and considering and, as far as practicable, meeting their reasonable requirements. The Directors heartily concur in the resolution of the Railway Association, and as announced in Mr. Cawkwell's letter which appeared in the "Times" of the 1st instant, they are proceeding with the revision upon the principles set forth in that letter, and hope by so doing to have before long met all well-founded complaints and satisfied all fair demands of the trading public. It is understood that some of the Companies, with a view of establishing a general principle of revision, have suggested that in no case should a rate be raised so as to exceed by more than 5 per cent. the corresponding rate prevailing in 1892. The North-Western Company, while concurring in any arrangement which would conduce to a fair and moderate course of dealing between the Company and their customers, think that to lay down a hard and fast line would be neither practicable nor desirable in all cases. In some cases, where goods are of high value, such as 50*l.* or 100*l.* a ton, an addition to the rate of 1*d.* or 1½*d.* per cwt. would, while amounting to a higher per-centage, really not affect the cost of the article or provoke any opposition from the trader, while other traffic could not reasonably bear any increase even to the moderate extent named.

Another objection is, that such a suggestion would go far to nullify in many cases the uniformity and simplicity gained by the codification of the maximum powers of the Company, which has been the result of the prolonged labours of Parliament and the Board of Trade upon the subject, and the introduction of another standard would, in addition to if not in substitution for, a reference to a few Acts of Parliament, involve individual reference to the many millions of actual rates existing in 1892, access to the records of which would, to the public, be difficult if not impossible.

The North-Western Company are, however, sincerely desirous of acting in a fair and conciliatory manner, and they will so exercise the powers which Parliament has conferred upon them as not in any degree to interfere with or injure trade or agriculture, and will carefully consider, and as far as possible meet, all representations that have been made to them, and thus endeavour to continue the satisfactory relations which have hitherto existed between them and their customers.

My Directors observe that the Board of Trade have no material to combat the allegation that the reductions of previously existing rates have been inconsiderable. There is, however, no doubt that the reductions have been actually made, and moreover that the facts that were proved by Sir George Findlay before the Joint Committee have been confirmed by the experience gained in the recent revision. Further, if the Board of Trade desire it, every facility shall be afforded to anyone they may appoint to inspect the Company's books and accounts or any other documents necessary to test the accuracy of this statement.

I am, &c.
(Signed) THOMAS HOUGHTON.

Sir Courtenay Boyle, K.C.B.,
Board of Trade, S.W.

(28.)

LONDON AND SOUTH-WESTERN RAILWAY COMPANY.

Board Room, Waterloo Station,
London, S.E., March 3, 1893.

SIR,

WITH reference to your letter of the 28th February, addressed to the Chairman of the Railway Association, the South-Western Railway Company have made strenuous efforts to remove any cause for dissatisfaction by issuing special or exceptional rates, under which the greater proportion of the merchandise traffic on this line is and has been carried.

The Directors are fully determined that no action on their part shall injuriously affect the traffic in the districts served by their railway, and they have given instructions to their officers to the following effect, viz. :—

A. Rates, the increase of which would injuriously affect trade or agriculture, are, where not reduced by the revised powers, to remain at the figures in operation up to the end of 1892.

B. As a general rule, applicable to goods traffic, no increase should, unless under exceptional circumstances, exceed 5 per cent. on the old rate.

C. The rates which have hitherto been below the ordinary level may be moderately increased in order to recoup to the Company a portion of the loss of revenue caused by statutory reductions.

D. The revision to be completed as early as possible, and to take effect from the 1st of January 1893.

I trust and believe that this action on the part of the South-Western Company will, while in some measure protective of their interests, be deemed to be a satisfactory solution of the difficulties which have arisen, and remove all further cause of complaint.

I am, &c.
(Signed) WYNDHAM S. PORTAL.

Sir Courtenay Boyle, K.C.B.,
Board of Trade, S.W.

(29.)

LONDON, BRIGHTON, AND SOUTH COAST RAILWAY COMPANY.

Secretary and General Manager's Office,
London Bridge, S.E.,
March 17, 1893.

SIR,

REPLYING to your circular letter of the 14th instant, I am desired to inform you that we have to-day reverted, as far as possible, to the rates for the conveyance of merchandise traffic which were in operation before the 1st January last.

My Directors accordingly trust that all grounds of complaint by traders in the districts served by the Company have been removed.

I am, &c.
(Signed) A. SARLE,
Secretary and General Manager.

The Assistant Secretary,
(Railway Department),
Board of Trade, S.W.

(30.)

LONDON, CHATHAM, AND DOVER RAILWAY COMPANY.

Secretary's Office,
Victoria Station, Pimlico, S.W.,
March 20, 1893.

SIR,

I AM instructed to acknowledge receipt of your letter, dated the 14th instant, inquiring what steps this Company proposes to take with the object of removing whatever complaints have been made, and which can be reasonably supported, with regard to the revised rates charged for the conveyance of merchandise traffic, and to say in reply that my Directors have already given instructions to their officers to the following effect, namely :—

1. No rates are to be raised which would interfere with trade or agriculture.
2. Rates which have hitherto been below an ordinary level to be moderately increased to recoup a portion of the loss arising from enforced reductions.
3. As a general rule, applicable to ordinary goods traffic, no increase should, unless under exceptional circumstances, exceed 5 per cent. upon the old rates.
4. The revision to take effect from the 1st January 1893.

I am, &c.

The Assistant Secretary, (Railway Department), Board of Trade, S.W.

(Signed) JOHN MORGAN, Secretary.

(31.)

LONDON, TILBURY, AND SOUTHEND RAILWAY COMPANY.

Fenchurch Street Terminus, London, E.C., March 17, 1893.

SIR,

WITH reference to your circular letter of the 14th instant, my Board desire me to state, for the information of the Board of Trade, that, although there have been instances of objection on the part of individual traders, there has been no general complaint made to the Company against the revised charges for the conveyance of merchandise traffic on the London, Tilbury, and Southend Railway.

In applying the revised classification and general conditions to the rates of 1892, the following instructions have been given to the officers :—

1. No rates are to be raised which would interfere with trade or agriculture, or diminish traffic.
2. Rates which have hitherto been below an ordinary level may be moderately increased to recover a portion of the loss of revenue caused by enforced reductions.
3. While no hard and fast rule can be laid down as equally applicable to all descriptions of traffic, no increase in special rates should, unless under exceptional circumstances, exceed 5 per cent. upon the old rates. As regards class rates, the new scale adopted locally should be fixed with the intention that the revenue to be derived therefrom shall not exceed the revenue derived from the old class rates.

I am, &c.

The Assistant Secretary, (Railway Department), Board of Trade, S.W.

(Signed) H. D. BROWNE, Chairman.

(32.)

MACCLESFIELD COMMITTEE.

Secretary's Office, London Road Station, Manchester, April 13, 1893.

SIR,

YOUR communication of the 14th ultimo transmitting copy of the correspondence between the Board of Trade and the Railway Companies' Association with regard to the revised goods rates has been duly considered, and I am directed, in reply, to point out that the Manchester, Sheffield, and Lincolnshire and North Staffordshire Railway Companies are joint owners of this undertaking, and as both those Companies have received the copy correspondence referred to, their respective replies are equally applicable to this Committee's proceedings.

I have, &c.

The Assistant Secretary, (Railway Department), Board of Trade, London.

(Signed) O. S. HOLT, Secretary.

(33.)

MANCHESTER AND MILFORD RAILWAY COMPANY.

General Manager's Office, Aberystwith,
April 21, 1893.

SIR,

WITH reference to your letter of the 14th March, enclosing a copy of correspondence between the Board of Trade and the Railway Companies' Association, the Manchester and Milford Railway Company desire to state that some important reductions have been made in the rates current in 1892 for coal, lime, salt, slates, and live stock, which are the chief items of traffic conveyed upon the line.

As regards the rates for other merchandise, a large proportion of those in operation in 1892 have also been reduced.

In those cases where the rates were below the ordinary level a moderate increase has been made, but, except in exceptional circumstances, the increase in special rates has in no case exceeded 5 per cent.

I trust that this action will satisfy the Board of Trade.

I am, &c.
(Signed) J. C. RUSSELL.

The Assistant Secretary,
Railway Department,
Board of Trade, Whitehall, S.W.

(34.)

MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE RAILWAY COMPANY.

General Manager's Office, Manchester,
March 7, 1893.

SIR,

WITH reference to your communication of the 28th ultimo, addressed to the Chairman of the Railway Companies' Association, and the subsequent resolutions passed by that Association, which have been forwarded to you by Sir Henry Oakley, I have to state that your letter and the resolutions have since been considered by this Company, and I am instructed to inform you that, since the revised rates have been put into operation, our officers have almost daily been seeing traders, considering applications which they have made for reduced rates, and, as far as practicable, meeting all reasonable requirements. They have done their utmost to perform what has proved to be an impossible task, with the result that the date fixed by the Orders Confirmation Act arrived before their labours were nearly completed. Consequently many rates were temporarily advanced owing to the lack of time to properly revise them.

I may say that this Company entirely concurs in the resolutions passed by the Railway Companies' Association, and with a view to carrying them out instructions have been given that rates which would, by alteration in an upward direction, injure trade or agriculture, must remain at their old level, and that rates which have hitherto been below a fair level may be raised, but such increase upon any individual rate must not, as a rule, and in the absence of exceptional circumstances, exceed five per cent.

It must be borne in mind that the application of the above-mentioned principles cannot be carried out within a limited period, but the revision upon these lines shall be completed as promptly as possible, and, where practicable, shall take effect from the 1st January 1893.

In the meantime I must beg, on behalf of this Company, for the patience and consideration of our customers, and of the Board of Trade, during the interval which must necessarily elapse before the rates can be adjusted.

I am, &c.
(Signed) WM. POLLITT,
General Manager.

Sir Courtenay Boyle, K.C.B.,
Board of Trade,
London, S.W.

(35.)

MARYPORT AND CARLISLE RAILWAY COMPANY.

Secretary and General Manager's Office,
Maryport, March 28, 1893.

SIR,

IN reply to your letter of 14th instant, respecting the revised rates charged for the conveyance of merchandise traffic, I have to inform you that the letter of the Board of Trade to the Chairman of the Railway Companies' Association, dated 28th February, and the reply of the Association, dated 1st March, have been considered by the Directors of the Maryport and Carlisle Railway Company, and I am instructed to inform you that they have given the following instructions to their officers, viz. :—

1. No rates are to be raised which would interfere with trade or agriculture, or diminish traffic.
2. Rates which have hitherto been below an ordinary level may be moderately increased when this can be done consistently with the above conditions.
3. As a general rule, applicable to ordinary goods traffic, no increase should, unless under exceptional circumstances, exceed 5 per cent. upon the old rate.
4. The revision to be completed as promptly as possible, and, where practicable, to take effect from the 1st January 1893.

I am, &c.
(Signed) HUGH CARR,
Secretary and General Manager.

To the Assistant Secretary,
(Railway Department),
Board of Trade, London, S.W.

(36.)

MAWDDWY RAILWAY COMPANY.

Manager's Office, Salop House, Oswestry,
March 21, 1893.

SIR,

WITH reference to your circular of the 14th instant, I beg to inform you that we have not had any complaints made to us with regard to the rates charged for conveyance of merchandise, &c. along our line. This is no doubt brought about through our having in no way interfered with the rates which existed previous to the 1st January last.

I am, &c.
(Signed) CHARLES E. WILLIAMS,
Secretary.

The Assistant Secretary,
(Railway Department),
Board of Trade, London, S.W.

(37.)

MIDLAND RAILWAY COMPANY.

Derby, March 2, 1893.

SIR,

WITH reference to your letter of the 28th February, addressed to the Chairman of the Railway Companies' Association, the Midland Company desire to offer a public and definite assurance of their intention to remove grounds for dissatisfaction with the revision of rates, and with that view have given the following instructions to their officers, viz. :—

In applying the revised classification and general conditions to the rates of 1892 :—

1. No rates are to be raised which would interfere with trade or agriculture or diminish traffic.

2. Rates which have hitherto been below an ordinary level may be moderately increased to recover a portion of the loss of revenue caused by enforced reductions.
3. As a general rule, applicable to ordinary goods traffic, no increase should, unless under exceptional circumstances, exceed 5 per cent. upon the old rate.
4. Cases in which this per-centage is exceeded should be specially reported to the Board.
5. The revision to be completed as promptly as possible, and to take effect from the 1st January 1893.

I trust that this action will satisfy the Board of Trade that there will be no violent departure from the old rates as a whole; and that while the interests of shareholders must not be disregarded, those of large and small traders will be protected from injury.

I am, &c.

Sir Courtenay Boyle, K.C.B., Board of Trade.

(Signed) G. E. PAGET, Chairman.

(38.)

MIDLAND AND SOUTH-WESTERN JUNCTION RAILWAY COMPANY.

General Manager's Office,
Swindon, Wilts, March 21, 1893.

Sir,

In reply to your letter of the 14th instant, accompanied by copy of correspondence between the Board of Trade and the Railway Companies' Association, with regard to the revised rates charged for the conveyance of Merchandise Traffic, my Directors desire me to inform you that no rates between this Company's local stations have been increased, except in those instances where the rates are controlled by the Company over whose two short sections of line running powers are exercised under the authority of this Company's Acts of Parliament.

The revision of rates between this and other Companies' stations is being proceeded with as rapidly as possible, the basis of the revision being that where any increase is made, such increase shall not, unless under very exceptional circumstances, exceed 5 per cent. on the rate of 1892.

My Directors believe that when the revision has been completed, all cause of complaint will be removed.

I am, &c.

Sir Courtenay Boyle, K.C.B., Board of Trade, (Railway Department), London, S.W.

(Signed) SAMUEL FAY, Secretary and General Manager.

(39.)

NORTHAMPTON AND BANBURY JUNCTION RAILWAY COMPANY.

3, Great Winchester Street, E.C.,
April 13, 1893.

Sir,

Your letter of the 14th ultimo was considered by my Directors at their meeting on the 10th instant, when I was instructed to inform you that this Company will be quite ready to fall in with any arrangement adopted by the other Companies with a view to facilitate arrangements with the traders in the matter of rates.

I am, &c.

The Assistant Secretary, (Railway Department), Board of Trade, S.W.

(Signed) W. LEIGH HUNT, Secretary.

(40.)

NORTH-EASTERN RAILWAY COMPANY.

General Manager's Office, York,
March 2, 1893.

SIR,

WITH reference to your letter of the 28th February, addressed to the Chairman of the Railway Companies' Association, I am authorised by the Directors of the North-Eastern Railway Company to inform you that they have adopted a resolution that the revision of rates shall be completed on the following lines:—

1. Great care will be taken in applying the revised classification and general conditions to the rates of 1892 that no increases shall be made which would interfere with trade or agriculture or diminish traffic.
2. Rates which have hitherto been below an ordinary level may be moderately increased when this can be done consistently with the above condition.
3. While no hard-and-fast rule can be laid down as equally applicable to all descriptions of traffic, no increase in special rates will, unless under exceptional circumstances, exceed 5 per cent. upon the old rate. As regards class rates the new scale, adopted locally, has been fixed with the intention (and it is believed that its result will bear out that intention) that the revenue to be derived therefrom shall not exceed the revenue derived from the old class rates.
4. The revision to be completed as promptly as possible, and where practicable to take effect from the 1st January 1893.

I am, &c.

The Assistant Secretary,
(Railway Department),
Board of Trade, Whitehall, S.W.

(Signed) GEORGE S. GIBB.

(41.)

NORTH STAFFORDSHIRE RAILWAY COMPANY.

Secretary's Office, Stoke-upon-Trent,
March 22, 1893.

SIR,

I HAVE submitted your letter of the 14th instant to my Directors, and am instructed to inform you that all reasonable complaints of the traders of this district, caused by the revision of rates under the new Act, are having careful consideration, and that all agreed reductions will take effect from the 1st January last. I am to observe that the new Schedule of Maximum Rates was settled by agreement between the Company and the Traders, and that any complaints received by the Board of Trade will probably be found to have arisen from the cancelling on January 1st of all special rates, the revision of which could not be completed within the prescribed time, but where heavy traffic is found to be passing special rates are being provided.

The Company are, and always have been, anxious to meet all reasonable requirements of their customers, and that they have done so is evidenced by the fact that they have been supported by the Traders of the District, both in Parliament and in the inquiry under the new Act.

I am, &c.

The Assistant Secretary,
Railway Department,
Board of Trade, London, S.W.

(Signed) PERCY MORRIS,
Secretary.

(42.)

OLDHAM, ASHTON-UNDER-LYNE, AND GUIDE BRIDGE JUNCTION RAILWAY COMPANY.

Secretary's Office, London Road Station,
Manchester, April 13, 1893.

SIR,

YOUR communication of the 14th ultimo, transmitting copy of the correspondence between the Board of Trade and the Railway Companies'

Association with regard to the revised rates has been duly considered, and I am directed to inform you that both separately and in conjunction with other Railway Companies, this Company is proceeding as quickly as possible to complete the revision of rates in accordance with the Act of 1888 and the Provisional Order of 1892.

I trust that before long this revision will be satisfactorily carried out, and that when complete no reasonable ground of complaint will remain.

I have, &c.

The Assistant Secretary, (Railway Department), Board of Trade, London.

(Signed) O. S. HOLT, Secretary.

(43.)

PEMBROKE AND TENBY RAILWAY COMPANY.

General Manager's Office, Pembroke Dock, March 21, 1893.

SIR,

I BEG to acknowledge your letter of 14th instant, addressed to the Secretary, enclosing copy of correspondence which has passed between the Board of Trade and the Railway Companies' Association, having regard to the revised rates charged for the conveyance of merchandise traffic.

So far as this Company's local rates are concerned, the revision has mainly been a readjustment of figures, there having been no material alteration made in the charges where traffic is actually passing, and at several stations where formerly there was no collection and delivery service, such has now been established.

During the past 30 years, many exceptional rates for special descriptions of traffic have been recorded in the rate books, many of which, having become obsolete, were withdrawn. Instructions have, however, been issued, that any of such rates may, when required, be re-adopted very much on the same basis as formerly.

The greater portion of the traffic to and fro this line is worked in conjunction with the Great Western and other Companies, and the through rates in respect of which are subject to the action of those Companies, but are almost entirely governed by sea competition.

I may, however, mention that so far we have received very few complaints thereon, and that there has been no difficulty in adjusting the same in a satisfactory manner.

I am, &c.

The Assistant Secretary, (Railway Department), Board of Trade, London, S.W.

(Signed) I. SMEDLEY.

(44.)

SEVERN AND WYE AND SEVERN BRIDGE RAILWAY COMPANY.

Engineer's and General Manager's Office, Lydney, Gloucestershire, April 18, 1893.

SIR,

IN reference to your letter of the 14th March, we have had no Board meeting since that date until to-day, when I submitted your letter to my Directors, and in reply I am instructed to say—

(1.) That in regard to coal rates to our shipping ports, they are unaltered.

(2.) In the majority of through coal rates, they are either unaltered or reduced. In a few cases they have been slightly raised, but we have had no complaint.

(3.) The iron ore rates, local and through, are unaltered, except change to avoirdupois weight.

(4.) The local stone rates are unaltered. The through rates in some cases have been advanced, but we have had no complaint.

The above is our principal traffic, and with respect to general merchandise we are (in conjunction with the other Companies interested) dealing with the cases as they arise.

I am, &c.

The Assistant Secretary,
Railway Department,
Board of Trade.

(Signed) GEO. WITHAM KEELING.

(45.)

SHEFFIELD AND MIDLAND RAILWAY COMPANIES' COMMITTEE.

Secretary's Office, London Road Station,
Manchester, April 13, 1893.

SIR,

YOUR communication of the 14th ultimo, transmitting copy of the correspondence between the Board of Trade and the Railway Companies' Association with regard to the revised goods rates, has been duly considered, and I am directed, in reply, to point out that the Manchester, Sheffield, and Lincolnshire and Midland Railway Companies are joint owners of this undertaking, and as both those Companies have received the copy correspondence referred to, their respective replies are equally applicable to this Committee's proceedings.

I have, &c.

The Assistant Secretary,
(Railway Department),
Board of Trade, London.

(Signed) O. S. HOLT,
Secretary.

(46.)

SOUTH-EASTERN RAILWAY COMPANY.

General Manager's Office,
London Bridge Station, S.E.,
March 20, 1893.

SIR,

IN reply to your letter of the 14th instant, with regard to the revised rates charged for the conveyance of merchandise traffic, I beg to inform you that the Directors of this Company have already given instructions that the rates shall be revised as speedily as possible, and subject to the following conditions:—

1. No rates are to be raised which would interfere with trade or agriculture.
2. Rates which have hitherto been below an ordinary level to be moderately increased to recover a portion of the loss arising from the enforced reduction.
3. As a general rule, applicable to ordinary goods traffic, no increase should, unless under exceptional circumstances, exceed five per cent. upon the old rates.
4. The revision to take effect from the 1st January 1893.

I am, &c.

The Assistant Secretary,
(Railway Department),
Board of Trade, S.W.

(Signed) MYLES FENTON,
General Manager.

(47.)

SOUTHWOLD RAILWAY COMPANY.

17 Victoria Street, Westminster, S.W.,
March 15, 1893.

SIR,

I HAVE to acknowledge receipt of yours as above with copy of correspondence between the Board of Trade and the Railway Companies' Association, with regard to the revised rates charged for the conveyance of

merchandise traffic which I will lay before my Directors at their next meeting.

I may state that no alteration has been made in this Company's local rates, and our traders are satisfied with them.

With regard to through rates these are being revised as speedily as possible.

I am, &c.

Sir Courtenay Boyle, (Signed) H. CARNE,
Board of Trade (Railway Department), Secretary.
S.W.

(48.)

TAFF VALE RAILWAY COMPANY.

Sir, Cardiff, April 3, 1893.

Your letter of the 14th ultimo, enclosing copy of correspondence between the Board of Trade and the Railway Companies' Association with regard to the revised rates charged for the conveyance of merchandise traffic, was submitted to the Board of this Company on the 28th ultimo.

The merchandise traffic carried on the Taff Vale Railway consists mainly of coal and coke.

There has been no increase in the coal rates, although they are probably the lowest in the Kingdom; but the rates for coke have been uniformly reduced, owing to the maximum authorised by the Act of last year being lower than the actual charges previously made, and a serious loss of revenue has been entailed upon the Company thereby.

Of the rates for general merchandise traffic (which is of comparatively small proportions) a very large number are lower than those in force prior to the 1st January, and the increases have relatively been few in number, and all of them moderate in amount. It is computed that, of the new rates put in operation on the 1st of January for local traffic, more than 60 per cent. were lower than those previously in force, and a considerable proportion of those which were apparently higher were only so because of the temporary withdrawal of special rates which it was impossible to revise in the limited time at our disposal.

All representations made by traders with respect to any rates that have been increased or withdrawn have been carefully considered (in conference where necessary with the traders themselves) and it is believed that the concessions made have given general satisfaction. This course will be followed with respect to any similar representations that may reach us, and all reductions will take effect from the 1st January 1893.

I am, in conclusion, to assure you that it is the desire of the Directors, in the interests both of the Company and of their customers, so to regulate the rates charged upon the railway as to stimulate rather than impede the development of trade. They believe that the facilities afforded by the Company have largely conduced to the prosperity of the district through which their railway runs, and the Board of Trade may be satisfied that these facilities will continue to be afforded to the fullest extent that circumstances may render necessary.

I am, &c.

The Assistant Secretary, (Signed) ARTHUR E. GUEST,
(Railway Department), Chairman.
Board of Trade, London, S.W.

(49.)

VAN RAILWAY COMPANY.

97, Dashwood House, Old Broad Street,
Sir, London, E.C., March 28, 1893.

In reference to your letter of the 14th inst. I have to inform you that this Company being in the hands of a Receiver appointed by the Court,

we do not propose to take any steps in the direction contemplated in your communication.

I may add that our traffic will be governed by the arrangements of the Cambrian Railway Company.

I am, &c.

The Assistant Secretary, (Signed) W. J. LAVINGTON.
(Railway Department),
Board of Trade, S.W.

(50.)

WEST LANCASHIRE RAILWAY COMPANY.

General Manager and Secretary's Office,
Central Station, Southport, March 23, 1893.

Sir,

Your letter dated the 14th inst., as also the accompanying copy of correspondence between the Board of Trade and the Railway Companies' Association, have been laid before my Directors, and I am instructed to inform you that whilst this Company concurs in the resolutions passed by the Railway Companies' Association, my Directors are happy to say that the complaints received from traders (which have been very few) have been at once dealt with to the satisfaction of the parties concerned.

I am, &c.

The Assistant Secretary, (Signed) G. F. COLMAN.
(Railway Department),
Board of Trade, London, S.W.

(51.)

WEST SOMERSET MINERAL RAILWAY COMPANY.

Stogumber, Somerset,
March 17, 1893.

Sir,

Your letter of the 14th reached me in due course, but the Directors are not likely to meet again before June. As no objections have been made to the Company's rates, I apprehend there is no necessity to take any further steps.

I am, &c.

The Assistant Secretary, (Signed) EDWIN HELLARD,
(Railway Department), Secretary.
Board of Trade, London, S.W.

(52.)

WIRRAL RAILWAY COMPANY.

New Brighton,
March 28, 1893.

Sir,

I duly received your circular letter of the 14th inst. and enclosure, which were brought before my Directors yesterday, and I am instructed to inform you that the revised rates put into operation on the 1st January last are giving satisfaction, and no complaints have been made by the traders.

Yours, &c.

The Assistant Secretary, (Signed) SAMUEL J. CARR.
(Railway Department),
Board of Trade, London, S.W.

SCOTLAND.

(53.)

CALEDONIAN RAILWAY COMPANY.

General Manager's Office,
302, Buchanan Street, Glasgow,
March 11, 1893.

Sir,

Sir Courtenay Boyle's letter of 28th ultimo, conveying to the Chairman of the Railway Companies' Association your observations in regard to the present position of the question of Railway Rates, and inviting the earnest attention thereto of the Association, has been communicated to my Company.

Acting on the resolution of the Association that each Company should make its own announcement, I have now to address you as to the position and action of my Company in this matter.

My Company fully recognise the feeling of wide-spread dissatisfaction to which you refer as resulting from the revised rates and charges which came into operation on the railways of the United Kingdom on 1st January, and from the earliest moment they have given that state of matters their most serious attention, and used their utmost endeavour to meet and remove any cause of dissatisfaction so far as concerns the traffic of this railway.

It is proper, however, that you should know, and I doubt not the communications you have received from traders on this railway will confirm what I state, that the dissatisfaction as regards this railway has not been general as regards all descriptions of traffic, but such as it is has been strictly confined to certain traffics only.

Without any desire to minimise the value and importance of other trades, I may refer to the great coal, iron, steel, and oil industries on this railway, which contribute a large volume of the whole traffic of this railway, as to which there is absolutely no dissatisfaction whatever, while as regards agricultural traffic, I may instance the milk rates as practically unchanged.

There is another matter to which you refer, and as to which it is proper you should know how my Company stand. I refer to the statements made during the progress of the proceedings in connexion with the Rates and Charges Acts that the effect of those Acts would be in very many cases to reduce actual rates in force before the passing of the Acts.

So far as regards this railway, I beg to assure you that those anticipations have been fully realised, and the operation of this Company's Act, in many cases, has been to reduce actual rates, thus entailing considerable loss on my Company.

Where dissatisfaction did exist or still exists among the traders on this railway, it has in the main been due to temporary causes, and my Company are confident that within a short period they will, so far as not already done, be able to remove any well-founded ground of complaint, and meet every reasonable requirement of the traders.

Already I am able to report that I have conferred with the representatives of the principal industries and districts affected, and in every case have been able to meet their requirements to their entire satisfaction.

In reaching this satisfactory result my Company have been materially aided by the traders themselves, from whom my Company have experienced a degree of reasonableness and moderation that was only to be expected.

The action of my Company in this matter has from the first been powerfully influenced by what you point to as the chief remedy in the present state of matters, namely a desire to adhere generally to the basis of the 1892 rates, and this they have in great measure been able to accomplish.

It is only proper, however, you should know there are a few descriptions of traffic within a limited area of this railway as to which the state of the law against inequality and in other respects renders it difficult for my Company to revert simply to the rates of 1892. These are cases where, under special

legislation, certain traffics in certain districts enjoyed rates not only intrinsically low, but quite abnormal in comparison with the rates for the same description of traffic on the railway generally.

These abnormal rates were, after very full discussion in Parliament, repealed, and my Company feel confident that in these circumstances they cannot reasonably be expected simply to revert to those rates which the great body of the traders do not ask, and the adoption of which might necessitate the reduction of the rates for similar traffic over the entire system.

In conclusion, I beg to assure you that my Company, fully appreciating as they do the appeal of the Board of Trade to the Railway Companies in the present state of public feeling, will not relax their efforts to meet and satisfy every reasonable requirement of the traders, and they are confident that so soon as the amended rates can be put into operation, the Board of Trade will find no good ground of complaint in the case of any trader on this railway.

I am, &c.
(Signed) JAMES THOMPSON,
General Manager.

The Right Hon. A. J. Mundella, M.P.,
President of the Board of Trade.

(54.)

CITY OF GLASGOW UNION RAILWAY COMPANY.

Manager and Secretary's Office,
98, Dunlop Street, Glasgow,
March 20, 1893.

SIR,

FURTHER to my letter of 15th instant, your circular letter of 14th instant was submitted to my Directors at their meeting to-day, and I am instructed to inform you no complaints have been made by the public in regard to the rates which have been charged, and as no appreciable difference has been made upon these rates, it is not anticipated any complaints will be lodged.

I am, &c.
(Signed) Q. Y. LAWSON.

The Assistant Secretary,
(Railway Department),
Board of Trade, London, S.W.

(55.)

GLASGOW AND SOUTH WESTERN RAILWAY COMPANY.

General Manager's Office,
St. Enoch Station, Glasgow,
March 13, 1893.

SIR,

WITH reference to your letter of the 28th ultimo, addressed to the Chairman of the Railway Companies' Association, and to the reply thereto of Sir Henry Oakley, the Secretary of the Association, I have, on behalf of the Glasgow and South Western Railway Company, to make the following observations:—

In only one case has any communication been received through the Board of Trade by this Company against the rates which were put in operation of the 1st of January last.

Several complaints, however, have been received from bodies of traders and individual traders, and wherever particulars have been given, endeavours have been made to meet the objections. In this view a number of meetings have taken place between traders and the officials of the Company, with the result that most of the objections have been met, and the traders satisfied.

As regards the mineral traffic of the Company, the rates for coal, which on this railway have always been very low, were, in 1888, reduced in nearly all cases by 3*d*. per ton. In the rates now charged, while we have retained the reduced rates for dross and for coal for shipment, we have made a slight addition to the sale coal rates, not exceeding in any case 3*d*. per ton.

As to local traffic in the several classes, the rates are, generally, somewhat higher than those in operation in 1892, although in the higher classes reductions in many cases have been made. We are now, however, adjusting any rates which are still higher, so as to meet as far as possible the objections of the traders.

Where exceptional rates were in existence, these have generally been continued, and I may mention that the bulk of our traffic, passing both locally and through, is carried at exceptional rates.

As to the rates for live stock traffic, considerable reductions have been made on the old rates for long distances, and, generally speaking, the advances are few.

With reference to the milk traffic, the Company has continued the former rates of $\frac{3}{4}d.$ per gallon for any distance up to 25 miles, and $1d.$ per gallon for any distance exceeding 25 miles, with a minimum of $2d.$ as before, and these rates include the carriage of returned empties.

For the carriage of cream, the Company is entitled to charge according to weight, but the rate now charged is only one half more than for milk—thus making the charge for the carriage, say, of one gallon of cream for any distance only $3d.$

Again, with reference to "smalls," that is articles of all classes up to 3 cwt., the Company has adopted a modified scale which is believed to be satisfactory to the trading community, and has met the most of the objections which have been made to this Company.

In respect of fish traffic, no alteration has been made in the old rates for the traffic carried over this railway by passenger trains, except that the minimum weight has been reduced in favour of the small traders from 56 lbs. to 7 lbs., and numerous reductions have been made for certain descriptions of fish carried by goods trains.

In addition to what has already been done, this Company is continuing the work of revision with all possible despatch, in the hope that any rates now in force, which are not giving satisfaction, may be fully considered, and adjusted as nearly as possible in harmony with the rates in existence in 1892.

I am, &c.

(Signed) THOMAS BRUNTON,
General Manager.

Sir Courtenay Boyle, K.C.B.,
Board of Trade, (Railway Department),
London, S.W.

(56.)

GREAT NORTH OF SCOTLAND RAILWAY COMPANY.

Secretary and General Manager's Office,
Waterloo Station, Aberdeen,
March 14, 1893.

SIR,

WITH reference to Sir Courtenay Boyle's communication of 28th ultimo to the Chairman of the Railway Companies' Association and to the resolutions of the Association contained in Sir Henry Oakley's letter of 1st instant, I desire on behalf of this Company to offer the following explanations and observations:—

Immediately on the passing of this Company's Act of last year the officers of the company proceeded to revise the rates and charges in accordance therewith; and whilst giving effect to the many reductions in actual rates imposed by that statute, they have made other reductions not so required. In cases where rates were below the ordinary level moderate increases have been made with the view of securing greater uniformity and correcting anomalies.

Since the new rates were put into operation the officers of the company have been engaged in meeting traders, and have made concessions and modifications. With regard to "smalls" between 1 cwt. and 3 cwts. the scale is now the same as prior to January last, whilst modifications of that scale in favour of the traders have been made for weights under 1 cwt.

The process of adjustment is proceeding, and we fully expect to be able shortly to satisfy every reasonable requirement of traders.

I may, however, here mention that several of the complaints received have on investigation been found to be altogether groundless, while the greater number of them are from traders who had packed and artificial manures and small consignments carried under circumstances exceptionally favourable to the traders, but entailing loss to the Company.

These circumstances are fully known to the Board of Trade; and with the view of correcting the anomalies so existing, the Company in 1881 introduced into Parliament a Bill which was considered by a Select Committee and afterwards discussed in the House of Commons, with the result that the Bill passed that House; and although the proposals of the Company were rejected by a Committee of the House of Lords, it was not because they were considered unfair, but because (as was urged by His Grace the Duke of Richmond and Gordon, who gave evidence) they should be postponed pending the decision of the Select Committee on Railways then sitting.

The Act of 1892 has rectified these anomalies, and it is the carrying out of the change which has given rise to some dissatisfaction, particularly in respect to small consignments in separate trucks formerly carried at a loss to the Company. The Directors, however, are satisfied that the traders will soon see, as many of them are now admitting, the reasonableness of the Company's position—the fact being that they are at least not more unfavourably placed than traders in like circumstances in other parts of Scotland.

In conclusion I would add that almost all the Directors of this Company are resident in and personally largely engaged in the trade and agriculture of the districts traversed by the Company's railways. They are thus deeply interested, and are desirous that the rates and charges of the Company shall be such as shall tend to encourage and develop traffic; and they have given instructions to their officers that all representations from traders shall be carefully considered and where necessary the rates adjusted with that object.

I am, &c.

(Signed) W. FERGUSON,
Chairman.

The Right Hon. A. J. Mundella, M.P.,
President of the Board of Trade,
Whitehall, London.

(57.)

HIGHLAND RAILWAY COMPANY.

General Manager and Secretary's Office,
Inverness, March 16, 1893.

Sir,

Your letter of 28th February to the Chairman of the Railway Companies' Association and the reply thereto by Sir Henry Oakley, Secretary of the Association, are before me, and in accordance with the terms of the latter I desire to offer the following observations with respect to the recent revision of rates so far as the Highland Company is concerned.

I wish to say first that no complaints have been received from your department, or through the Railway Association, against the rates adopted on this line.

Representations have been made direct by traders and representative associations, mainly referring to the increase for smalls brought about by the new method of charging which followed upon the passing of the Act of 1892, of the increased rates for returned empties, for hay and straw, packed manures, agricultural seeds, &c.

Meetings were held with the traders, and modifications have since been made on these rates, which are believed to be generally satisfactory. Apart from these, the increases in rates on this line are slight, and were only adopted to replace the revenue lost to the Company by the decreases on many of them, which were brought about by the limitation of the Company's powers under the new Act.

On the important traffics carried by this Company—dead meat, fish, and live stock—there have been no advances.

It has always been our practice on this line to grant exceptional rates for special traffics on cause being shown by the traders, and this we still continue to do.

I am, &c.

Sir Courtenay Boyle, K.C.B.,
(Railway Department),
Board of Trade, London.

(Signed) AND. DOUGALL,
General Manager.

(58.)

NORTH BRITISH RAILWAY COMPANY.

Sir, Edinburgh, 11th March 1893.

Referring to Sir Courtenay Boyle's letter of 28th ultimo, addressed to the Chairman of the Railway Companies' Association, and to the resolutions of the Association adopted on that date, communicated to the Board of Trade by Sir Henry Oakley, I have, on behalf of the North British Railway Company, to lay before you the following statement and observations.

A large proportion of the rates formerly in operation on the North British system have been reduced, many of them to a considerable extent, and no increase of any moment has been made on any part of the line, except where (1) the abolition by the Provisional Order of specially low powers in certain districts rendered an alteration necessary to remove what would, under the new circumstances, be the ground for a charge of undue preference from traders outside those districts, and (2) the necessary removal of anomalies.

No change has been made in the rates for the conveyance of milk, nor on the whole on the rates for the conveyance of live stock; and certain changes on the rates for hay and straw, which the separate classification under the Order introduced in respect of those articles when not hydraulic or steam pressed, have since been modified, on the representation of agriculturists and others interested that the new conditions were inapplicable to the circumstances under which those articles were conveyed in Scotland.

A similar remark may be made with respect to artificial manure, but the Company have provided and are continuing to provide exceptional rates wherever such rates are required, as heretofore.

With regard to the important industries connected with iron and steel making, the production of mineral oil, calico printing, and fisheries, none of the rates for raw materials or products have been altered, and the only alterations made on coal rates, whether increases or decreases, have been solely those required to readjust the various rates in the district of each coalfield, and to remove a few inequalities in the shipment rates to certain ports.

A large proportion of the Company's general merchandise traffic not falling under the category of "smalls," relates to the brewing, distilling, and paper trades, and apart from the rates referred to in clause (1) of the second paragraph of this letter very few changes have been made.

In dealing with "smalls" it was found that the introduction into Scotland of the limit of 3 cwt. which the Provisional Orders imposed upon all parts of the United Kingdom, caused great inconvenience to the trades which had been accustomed to distribute their goods in quantities just over 1 cwt. in order to obtain the benefit of the tonnage rate, and as the greater number of the complaints which reached the company since the beginning of the year arose out of this alteration, we, in concert with some of the other Scotch Companies, modified the new charge for small packages between the weights of 1 cwt. and 3 cwt., so as to bring the actual charges for such packages as near as possible to the old tonnage rate, without departing from the principle of the three cwt. limit prescribed by Parliament. It should not be overlooked that the Company had already lost a considerable revenue in respect of small packages under one cwt. by the adoption of the new method of dealing with "Smalls."

I think it necessary to point out that in the case of the Scotch Companies particularly a great deal of the misapprehension which has existed in the

public mind has been due to the small number relatively of revised exceptional rates which it was possible to bring into operation on 1st January, but the most strenuous efforts have been, and are still being, made to bring at as early a date as possible the new rate books into the complete condition which they would have been in if sufficient time for revision had been granted by Parliament before they became open to the inspection of the public. The officers of the Company are daily meeting traders whose rates had not been adjusted, and the directors are confident that in a very short time all just grounds for dissatisfaction will be removed.

In addition to the representations received by the Company direct from traders, the representations containing specific complaints which have reached us through the Board of Trade have been subjected to strict inquiry, with the result that many of them have been shown to have been unfounded, or to have been met during the interval by the progress of the revision.

In conclusion I beg to state that all rates revised since 1st January have been and will be made retrospective as from that date.

I am, &c.

The Right Hon. A. J. Mundella, M.P., Board of Trade, Whitehall, London. (Signed) TWEEDDALE, Chairman.

(59.)

PORTPATRICK AND WIGTOWNSHIRE RAILWAYS JOINT COMMITTEE.

Secretary's Office, Carlisle,
19th April 1893.

Sir,

With reference to your letter of the 14th ultimo I have, on behalf of this Committee, to make the following observations :—

No communication has yet been received through the Board of Trade by this Committee with regard to the rates which were put in operation on 1st January last. Several complaints have, however, been received from individual traders, and whenever particulars have been given endeavours have been made to meet the objections. In this connexion interviews have taken place between the Committee's officials and traders, with the result that most of the objections have been met and the traders generally satisfied.

The bulk of the mineral and merchandise traffic carried on this Committee's line is through traffic to and from the London and North-Western, the Midland, the Caledonian, and the Glasgow and South-Western Companies' lines, and the rates for such traffic are fixed by those Companies. The replies given by those Companies to the Board of Trade letter may be taken as applicable to the rates for through traffic to and from this Committee's line.

With respect to local traffic, the class rates prior to the 1st January were in several cases too high, and in several cases exceptionally low. Under the new scale they have been adjusted to more reasonable figures, the higher rates being reduced and the lower rates moderately increased. Where exceptional rates were in operation prior to 1st January last they have in a large measure been restored, and new exceptional rates have been made where it appeared that the class rates pressed against the traders.

In the adjustment of the local rates generally the example of the Caledonian and Glasgow and South-Western Companies is being and will be followed.

I am, &c.

The Assistant Secretary, Railway Department, Board of Trade, London. (Signed) JOHN THOMSON, Secretary.

IRELAND.

(60.)

BALLYCASTLE RAILWAY COMPANY.

Secretary's Office, Ballymoney,
March 23, 1893.

Sir,

In reply to your letter of the 14th inst., I beg to inform you all objections to the revised rates which came into operation on 1st January last, have been carefully considered, and such revisions made as seemed necessary, and we believe the public are quite satisfied with the rates as they now stand.

Yours truly,
(Signed) H. W. ALLEN,
Secretary.

The Assistant Secretary,
Railway Department,
Board of Trade, London.

(61.)

BELFAST AND COUNTY DOWN RAILWAY COMPANY.

General Manager's Office,
Belfast, March 23, 1893.

Sir,

Your letter of 14th inst., with copy of correspondence enclosed, relative to the revised rates charged for merchandise traffic, was before my Directors at their last meeting; and on behalf of this Company I have to state that they are not aware of any general complaints having been made relative to the new rates put into operation on this Company's line, except those caused by the abolition of specially low rates, and the removal of anomalies, which had been previously in existence.

In the very few cases where complaints have been made the matters have been inquired into, and, if reasonable, they have been met by a reduction.

My Directors wish me to point out that their desire has been all through the revision to preserve as far as possible the rates formerly in existence, consistent with a proper regard to the provisions of the Act and the Provisional Order.

The fact that not a single complaint has reached the Board of Trade relative to the rates on this Company's line, I would venture to add, goes far to prove this.

I am, &c.
(Signed) JAMES PINION.

Sir Courtenay Boyle, K.C.B.,
Board of Trade, Whitehall,
London, S.W.

(62.)

BELFAST AND NORTHERN COUNTIES RAILWAY COMPANY.

Belfast, March 20, 1893.

Sir,

Your letter of the 14th instant, with copy correspondence enclosed, has been submitted to the Board at their meeting to-day, and I am desired to inform you that for a considerable time past our general manager has been almost daily engaged in dealing with objections to the rates which were issued in December last, and discussing with merchants and traders the subject of their complaints, with the object, as far as possible, of meeting their views—the result being that, excepting in the case of one town, all the objections have been met and the customers of the Company are, it is believed, quite satisfied.

The revised charges will take effect as from 1st January last.

I am to add that the Directors have all along been anxious, not only in the interest of the traders, but in their own interest, to exercise their powers so as to foster rather than interfere with or cripple any industry.

Yours, &c.

The Assistant Secretary,
(Railway Department),
Board of Trade,
London, S.W.

(Signed) W. N. GILL,
Secretary.

(63.)

BESSBROOK AND NEWRY TRAMWAY COMPANY.

DEAR SIR, Bessbrook, March 16, 1893.

I AM duly in receipt of your favour of 14th instant, enclosing correspondence respecting revised railway rates and charges, and am directed to reply that we have not increased any of our rates, and have not received any complaints against existing rates, so do not think it necessary to take any action in the matter.

Yours, &c.
BESSBROOK AND NEWRY TRAMWAY COMPANY,
per H. HARRISON.

Assistant Secretary
(Railway Department),
Board of Trade, S.W.

(64.)

CAVAN, LEITRIM, AND ROSCOMMON LIGHT RAILWAY AND TRAMWAY COMPANY, LIMITED.

37, College Green, Dublin,
March 16, 1893.

SIR,

I LAID before my Directors yesterday your circular letter of 14th instant, and the accompanying copy of correspondence between the Board of Trade and the Railway Companies' Association with regard to the revised rates charged for the conveyance of merchandise traffic. I am directed to say in reply that this Company has received very few complaints respecting their revised rates, and that such complaints were immediately removed by some concession being made by the Company.

I am, &c.

The Assistant Secretary,
(Railway Department),
Board of Trade.

(Signed) PHILIP MAC NULTY,
Secretary.

(65.)

CLOGHER VALLEY TRAMWAY COMPANY, LIMITED.

General Manager and Secretary's Office,
Aughnacloy, March 30, 1893.

SIR,

I HAVE to acknowledge the receipt of your circular letter of the 14th instant, enclosing copy of the correspondence which has passed between the Board of Trade and the Railway Association with regard to the revised rates charged for merchandise traffic, and asking that I shall inform the Board of Trade as to what steps the Company proposes "to take with the object of removing the very general complaints made."

I have to inform you that no general complaints have been made to this Company regarding the rates as revised, and it is not, therefore, intended to make any alteration therein unless it be subsequently found that any rate is likely to have an injurious effect upon the trade of the district.

I may further state that the revision which has taken place appears to be generally satisfactory to our customers. Do I understand that your Board has received complaints regarding any of our rates? If so, I beg you will be good enough to hand me particulars thereof for my information.

I am, &c.

Sir Courtenay Boyle, K.C.B., (Signed) D. STEWART.
Board of Trade,
(Railway Department),
London, S.W.

(66.)

CORK, BANDON AND SOUTH COAST RAILWAY COMPANY.

General Manager's Office,
Terminus, Albert Quay, Cork,
March 29, 1893.

SIR,

WITH reference to your letter of 14th instant, enclosing copy of correspondence between the Board of Trade and the Railway Companies' Association, I have to inform you that my Directors from the beginning intended that no unreasonable advances in rates should be made, and in framing the new lists have kept as nearly as possible to the old figures. In some cases there are advances, while in others there are reductions, as in the case of the rates for butter between the western stations and Cork, in which there is a large traffic. My Directors wish the Board of Trade to know that there have been practically no complaints from traders as to the rates charged on this line, and that they have been careful to make no advances which would in any way affect the interests of agriculture.

Yours, &c.

Sir Courtenay Boyle, K.C.B., (Signed) A. GORDON,
Board of Trade. General Manager.

(67.)

CORK, BLACKROCK AND PASSAGE RAILWAY.

General Manager's Office,
Terminus, Albert Street, Cork,
March 16, 1893.

SIR,

YOUR circular letter, and copy of correspondence between the Board of Trade and the Railway Companies' Association was before the Directors of this Company, and I have pleasure in informing you, that with two exceptions, no complaints have been received with regard to the revised rates charged for the conveyance of merchandise traffic. One of the exceptions is from a firm of ale brewers, with regard to the rate for ale from Cork to Queenstown; I give you on other side the new and old rates from Cork to the 11 stations on this Company's system, by which you will perceive they have not much cause to complain, as there are reductions in the rates to six stations, and slight increases to five stations.

The other complaint was of too trivial a nature to bring under your notice.

I am, &c.

The Assistant Secretary, (Signed) J. J. O'SULLIVAN,
(Railway Department), General Manager.
Board of Trade,
London, S.W.

[Enclosure.]

RATES FOR ALE FROM CORK.

To	Old Rate, per Ton.	New Rate, per Ton.
	s. *d.*	*s.* *d.*
Blackrock	4 0	3 7
Rochestown	4 0	3 7
Passage	4 0	4 1
Monkstown	5 6	4 5
Ringaskiddy	4 2	4 7
Haulbowline	4 2	4 7
Queenstown	4 2	4 11
Spike Island	6 0	5 1
Aghada	4 2	5 1
Currabinny	6 0	5 1
Crosshaven	6 0	5 1

(68.)

DONEGAL RAILWAY COMPANY.

Secretary and General Manager's Office,
Stranorlar, Co. Donegal,
April 15th, 1893.

SIR,

THE Board of Trade circular letter of the 14th ultimo, with copies of correspondence that has passed between the Board of Trade and the Railway Companies' Association in reference to the revised rates charged for the conveyance of merchandise traffic, has been considered by my Directors.

I am instructed to state in reply that so far as this Company is concerned little alteration has been made in the old rates, and, where any increase was made, it was of a very trifling amount.

More than 50 per cent. of our merchandise traffic consists of bread stuffs, and on this there has been a very considerable all-round reduction.

We have had no complaints of any kind from the traders served by this line.

I am, &c.
(Signed) R. H. LIVESEY.

The Assistant Secretary,
Railway Department,
Board of Trade, London, S.W.

(69.)

DUNDALK, NEWRY, AND GREENORE RAILWAY COMPANY.

Secretary's Office, Euston Station,
London, N.W., March 29, 1893.

SIR,

WITH reference to your letter of the 14th instant, asking to be informed what steps this Company propose to take with the object of removing the very general complaints made with regard to railway rates, I have to inform you that both separately and in conjunction with other Railway Companies, the Dundalk, Newry, and Greenore Company are proceeding as quickly as possible to complete the revision of rates in accordance with the Act of 1888 and the Provisional Order of 1892. I trust before long that this revision will be satisfactorily carried out, and that, when complete, no reasonable ground of complaint will remain.

I am, &c.
(Signed) T. HOUGHTON,
Secretary.

Sir Courtenay Boyle, K.C.B.,
Board of Trade, S.W.

(70.)

GREAT NORTHERN RAILWAY COMPANY (IRELAND).

Amiens Street Terminus, Dublin,
March 29, 1893.

SIR,

WITH reference to your letter of the 14th instant, regarding the revision of rates under the new Railway and Canal Traffic Act, I beg to state, on behalf of this Company, that the limited time at our disposal for the arrangement of the new rates for the 1st January last, in terms of the Act, placed us at some disadvantage, but the best was done under the circumstances.

Very many of the rates were materially affected by the new classification, a large number having been reduced by articles being transferred from a higher to a lower class, whilst others were increased by the transference of articles from a lower to a higher class, but although powers were given in these cases to charge higher rates, yet they were found to be practically inoperative, as the traffics could not fairly bear the increases.

Under these circumstances our general manager visited the respective districts along our route of railway, met our traders and discussed matters with them on the spot, thus ascertaining precisely the requirements of the different localities, and enabling us to make such alterations and modifications as were found requisite.

With a railway like ours, having such an extended seaboard and so many ports, we have had very considerable difficulty in accomplishing this, having regard to the provisions of the Act, but I am glad to inform you that generally such arrangements have now been completed as to reasonably meet the trade of the country.

Yours faithfully,
(Signed) JAMES GRAY,
Chairman.

Sir Courtenay Boyle, K.C.B.,
Board of Trade, Whitehall,
London, S.W.

(71.)

GREAT SOUTHERN AND WESTERN RAILWAY COMPANY.

Traffic Manager's Office, Dublin,
March 23, 1893.

DEAR SIR,

WITH reference to your letter of the 14th inst., inquiring what steps this Company proposes to take with the object of removing complaints made as to increases in rates, I am directed to say that it is not within the Company's knowledge that there has been anything like "very general complaints" as to the freights charged on this line. The number of complaints received has been few, and everything has been done to meet the wishes of the traders as far as it was possible to do so.

With regard to the revision of rates for goods traffic, I am to impress upon the Board of Trade that the full maximum powers sanctioned by the Orders Confirmation Act were not adopted as a basis of the revision on this railway, and in no case did the Company seek to enforce them when they exceeded the actual charging rates. The basis and aim has been to bring the new rates as nearly as possible to the old figures, having regard to the important change in the classification of goods.

It will be in the knowledge of the Board of Trade that, prior to the 1st January 1893, the merchandise traffic carried locally and interchanged between this and other Irish railways was charged at rates based on the *Irish* Railway Clearing House Classification of goods. This classification, which grew up with the Irish railway system, contained six classes only, while the *general* classification now governing our charging powers contains eight classes. The Company were never anxious for this change, knowing it would bring about considerable disturbances in trade, but acquiesced in it in deference to the wish of the Board of Trade and the demands of the traders. It will be readily understood that it would be quite impossible to adjust the new classification, differing so materially from that hitherto in use, to the old tariff without causing some unavoidable increases in rates, but on the other hand it also effected a very large number of reductions which may not have been brought prominently under the notice of the Board of Trade.

Since 1st January exceptional arrangements in favour of freighters (tantamount to an alteration in the classification) have been adopted for about 600 articles, in common with other railways in the United Kingdom; but we have gone even further than this, and whereas some goods have been raised a class, as indicated in preceding paragraph, we have found that the increase would press unduly on the public, and that though entitled by law to the new rates we have voluntarily met the cases by special reductions in classification; for example: All the important traffic in Class "C," hitherto unrestricted as to minimum quantity, has by recent legislation been subjected to a 2-ton minimum; we have decided not to enforce this condition, as pressing heavily on the small traders.

To the foregoing may be added:—

Potatoes.
Mineral waters.
Soap.
Drapery.
Groceries.
Blacking.
Confectionery in boxes, cases or casks.
Drysalteries.
Earthenware in casks or crates.
Common glass.
Crown or window glass in crates.
Ropes and cordage.
Sacks, new.
Salt in bags in waggon loads.
Salt, provisions, and offal, for human food.
Tobacco, manufactured, except cigars and cigarettes.

As it would appear from the letter of the Board of Trade, dated 28th ult., to the Chairman of the Railway Companies' Association, that up to that time "no instance had been proved to the satisfaction of the Board of Trade in "which there has been any material reduction in rates in consequence of the action of the Legislature," a list is enclosed herewith containing about 150 articles for which reduced rates have come into operation between all places on this system in consequence of the change of classification, and the list does not thoroughly exhaust the number of articles so reduced. To give an idea of the extent of the enforced reduction, the old and new rates are shown for a distance of 50 miles, which is about the average distance carried, and it will be observed that none of the decreases are less than 20 per cent.

Live Stock.

The Company wish the Board of Trade to understand that in fixing the rates for cattle, sheep, and pigs, they have not sought to charge their full maximum powers, even though the result of the charging of such powers would mean a loss of revenue. As *general* complaints have been made in Parliament of the new rates, a comparison is enclosed of the present actual rates per waggon of the standard size in use on this railway, with those in operation prior to the 1st January, showing the reductions, from which it is seen that for cattle and sheep up to 75 miles there is an all round decrease from 1 to 21 per cent., while there is a very considerable reduction, averaging from 5 to 36 per cent., up to 110 miles in pigs, in which we have a very large business in connexion with curing establishments in the south of Ireland and also for export. The great bulk of the live stock is carried within these distances. The alteration in our maximum powers on this traffic has resulted in a very serious loss of revenue to the Company.

With regard to the complaint made that free passes for drovers have been discontinued, I am to say that on this railway drovers have always been charged full ordinary fares.

Any complaints made to the Company by traders shall continue to receive very careful consideration, and their views will be met as far as it is consistent to do so, but the change in the classification of goods renders it impossible to give any similar undertaking to that given by the English Companies in the correspondence which you have sent.

Yours, &c.

The Assistant Secretary,
Board of Trade, London.

(Signed) ROBERT G. COLHOUN.

(72.)

LISTOWEL AND BALLYBUNION RAILWAY COMPANY.

Managing Director's Offices,
10 Drapers' Gardens, London, E.C.,
March 20, 1893.

SIR,

IN reply to your favour of the 14th instant, I beg to say that all complaints for charges have been settled since the 1st of this month, and a revised scale of rates has been in operation since then, which has met with the cordial approval of all our customers. Under this new scale a slight increase has been made in some of the rates, which were hitherto below the ordinary level, but in no cases has the increase exceeded five per cent. which in no way compensates us for the reduction made in the rates for certain articles of merchandise under the statute.

I may add that many of the special rates in force at the end of 1892 have not been disturbed by this arrangement, and that on the whole it works satisfactorily to all the persons who give us their custom.

I am, &c.

To the Assistant Secretary,
(Railway Department),
Board of Trade,
Whitehall Gardens, S.W.

(Signed) EDWARD SKILTON,
Secretary.

(73.)

MIDLAND GREAT WESTERN RAILWAY OF IRELAND COMPANY.

Offices, Broadstone Station,
Dublin, March 22, 1893.

SIR,

I HAVE submitted to my Board your letter of the 14th instant, with the enclosed copy of correspondence between the Board of Trade and the Railway Companies' Association, with regard to the revised rates charged for the conveyance of merchandise traffic, and am instructed to send you the following in reply.

The revised class rates which came into operation on this railway on 2nd January last, are all station to station; have been fixed upon a uniform scale based upon the cumulative principle in accordance with the Confirmation Order Act, and are adjusted to the new general classification, which differs materially from the old Irish classification. They are, except in the case of 3rd, 4th, and 5th classes, from $3\frac{1}{2}$ to 24 per cent. under the maximum powers.

The new 3rd, 4th, and 5th class rates, although fixed at the maximum powers, in the case of 3rd class generally approximate the old rates, whilst the new 4th and 5th classes are considerably lower than the old rates.

The new class rates have as far as possible been fixed at or about the old rates, having regard to the very varied and unequal rates which previously existed on different sections of the railway, owing to various lines having been acquired by the Company from time to time, and the rates remaining unchanged; and with regard to the remainder of the railway the old rates having been based, not upon any cumulative principle, but upon the same fixed mileage rates for all distances; and also to the difficulty of accurately comparing class with class in consequence of the adoption now of the general classification, in supersession of the former Irish classification. Many of the class rates are reductions upon old rates.

The new class C rates (which includes such important agricultural traffic as grain, bran, flour, oilcake, guano, meal, potatoes, packed manure, &c.) are generally and substantially lower than the old rates for such articles, and in addition the minimum of 2 tons attached to class C in the parliamentary and general classification has been abolished on this railway, the rates for class C thus applying to all goods in that class, without any restriction as to weight, subject only to the minimum for smalls. A further concession has been granted, viz., that waggon loads at the reduced rates may be made up of consignments from one consignor to two or more consignees, and also in regard to grain or flour the reduced rates for waggon loads have been

extended to six-ton lots and upwards. The latter concession did not previously exist on this railway.

Reduced class rates for A and B applicable to six-ton loads have been fixed at 15 per cent. under the ordinary A and B class rates, and for certain commodities in class C, such as grain, flour, packed manure, feeding stuffs &c., in six-ton loads, reduced rates have been fixed at 18 per cent. under class C.

Exceptional rates (which are also all station to station) have been arranged in practically all cases where they existed prior to 31st December, and numerous additional exceptional rates, which did not previously exist, have been arranged. In fixing exceptional rates the desire has been to approximate to the old rates as far as possible, consistent with the adjustment of anomalies, avoiding possibilities of charges of undue preference, and with moderate increases in certain cases to minimise enforced reductions.

In addition to the various reductions in the general classification which have been adopted, this Company have arranged exceptional rates all over their railway for 31 principal articles of merchandise on the basis of the reduction of a class so as to bring the rates for such merchandise into conformity with rates previously charged.

The through rates for goods between Great Britain and this railway are at present under revision, and so far as this Company is concerned it is not intended that they shall be increased, unless in exceptional cases to adjust anomalies.

The rates for perishable merchandise by passenger train, both local and through, with Great Britain, have been revised and are practically the same as before, and in many cases are reduced. This Company has for many years devoted special attention to the cultivation of traffic in farm, dairy, and garden produce, by an extensive system of rates fixed at as low a scale as practicable.

The development of fish traffic from this Company's district, viz. :—the West and North-West Coast of Ireland, has for many years received careful consideration, and the low rates which have been arranged from time to time have not been disturbed in the revision.

The revised rates for milk which the Company put into operation on the 2nd January are practically the old rates.

With reference to the specific matters mentioned in your letter of 28th February to the Chairman of the Railway Association, I am instructed to state :—

1. Rebates allowed in a collection and delivery rate.	1. As previously stated, all this Company's rates are station to station.
2. Owner's risk note. Stamping by trader and extent of liability.	2. In regard to stamping, this is only required for general risk notes to cover a period, and the stamp in such cases was always provided by the trader. With regard to the extent of liability, it is understood that the form of risk note is under revision by the general managers.
3. Marking of milk cans inside and examination in transit.	3. The Company do not propose to examine during transit, except in very exceptional circumstances.
4. Drovers' free passes and train accommodation.	4. Free passes were not hitherto allowed except on one branch line. Good third class accommodation is provided for persons in charge of stock.
5. Rates from sidings or stations.	5. In the few cases where the traffic is forwarded from sidings on this railway, the rate is shown as applying from the siding. We have no rates from siding to siding.
6. Measurement of timber.	6. Very little timber has ever been carried at measurement weight on this railway, and the Company will fall in with whatever practice be adopted generally.

I am to add that in the revision the reductions which have been made on old rates are numerous and considerable, and relate in many cases to important items of traffic.

In conclusion, I am instructed to assure the Board of Trade that it is the desire and intention of my Board (as it has always been) to encourage Irish trade and industry by reasonable rates and arrangements. The recent revision of rates, whilst requiring the adjustment of many anomalies which previously existed on different parts of the railway, has been, and is still being, carried out strictly in this spirit, and with the view of making such concessions as shall satisfy the reasonable requirements of the traders connected with this railway.

I am, &c.

The Assistant Secretary,
(Railway Department),
Board of Trade, London, S.W.

(Signed) GEO. W. GREENE,
Secretary.

(74.)

WATERFORD AND CENTRAL IRELAND RAILWAY COMPANY.

Secretary's Office, Waterford,
March 21, 1893.

SIR,

I BEG to acknowledge receipt of your circular letter of the 14th instant, and the enclosed copy of correspondence between the Board of Trade and the Railway Companies' Association with regard to the revised rates charged for the conveyance of merchandise traffic, which I laid before my Directors as requested, and, in reply, I am instructed to say that this Company is desirous of doing nothing that will injuriously affect the trade of the country, and in making out the new rates under the revised classification and schedule of rates and charges, it was endeavoured to adhere as closely as possible to the rates previously in existence, and alterations were made only where they could not be avoided through the change in the classification.

There is one difficulty that affects Irish railways which does not affect English, in connexion with the change from the classification that was in use to 31st December 1892 to the revised classification, that appears to have been overlooked, and of which traders do not seem to be aware, and that is, under the Irish railway classification there were only six classes, under the revised classification there are eight, and the result is that articles have been moved from one class to another (for instance, articles which in the Irish classification were all first class in the revised classification are in classes A. and B.), and it would be necessary, if the Irish Companies are to revert to the rates and conditions of 1892, for them also to revert to the Irish classification of that year, and abolish the revised classification, or if the revised classification is to remain in force they must make the majority of the rates exceptional or special, and this would render the classification and the class rates practically useless.

It must be borne in mind that there is in Ireland a good deal of competition by water; the carriers of traffic by that mode are not bound by any legislative enactment the same as railway companies are, and rates have to be made to meet this competition for long distances, lower proportionately than for shorter distances, and intermediate where such competition does not exist. This is a source of complaint which cannot be avoided unless by making rates that would be totally unremunerative to the carriers.

I am, &c.

The Assistant Secretary,
(Railway Department),
Board of Trade.

(Signed) J. D. NOTT,
Secretary.

(75.)

WATERFORD AND LIMERICK RAILWAY COMPANY.

Traffic Manager's Office, Limerick,
29th April 1893.

SIR,

WITH further reference to your letter of 14th ultimo, I beg to say that we have not increased any of the rates—and we have a great number of them—between stations on the Waterford and Limerick line and those in England, Scotland, and Wales.

We also charge the same rates for milk as we charged in 1892.

The revenue of the Waterford and Limerick Company is mainly derived from the conveyance of live stock, and, as you are aware, the rates for such traffic have been very considerably reduced, the result being so far (that is, from the 1st January to the 21st of April) a decrease in our receipts amounting to 580*l.* as compared with the corresponding period of last year.

With regard to the question of owner's risk notes, this is under the consideration of the railway companies generally, and we shall be quite willing to adopt any reasonable modification in the form.

As to the mode of measurement for round timber, it is very seldom that we have a consignment of this traffic offered to us, so the question does not affect this Company. I may say that pitwood is the only kind of timber which is conveyed by the Waterford and Limerick Company to any considerable extent, and this we charge at actual weight.

If you require any further information I shall gladly give it.

I think you will find that the very few complaints which you have had with regard to our rates have been satisfactorily dealt with.

I am, &c.
(Signed) FREDERICK VAUGHAN.
Traffic Manager.

Sir Courtenay Boyle, K.C.B.,
Railway Department,
Board of Trade, London, S.W.

(76.)

WATERFORD AND TRAMORE RAILWAY COMPANY.

Secretary's Office, Waterford,
April 20, 1893.

SIR,

WITH reference to your circular letter of the 14th March I have laid the copy of correspondence between the Board of Trade and the Railway Companies' Association with regard to the revised rates charged for the conveyance of merchandise traffic before my Directors as requested.

In reply I am desired to inform you that this Company have made no increase to the rates which were charged before the 1st January 1893, and that they have always endeavoured in every way to meet the reasonable requirements of traders.

I am, &c.
(Signed) ARTHUR PROSSOR,
Secretary, *pro tem.*

The Assistant Secretary
(Railway Department),
Board of Trade,
Whitehall, S.W.

(77.)

WEST CLARE RAILWAY COMPANY, LIMITED.

Secretary's Office,
39, Dame Street, Dublin,
March 28, 1893.

SIR,

I BEG to acknowledge receipt of your letter of 14th instant, enclosing copy of correspondence between the Board of Trade and the Railway Companies' Association with regard to the revised rates charged for the conveyance of merchandise traffic, which I submitted to my Directors at their meeting of the 22nd instant, and in reply I have to state that no complaints of any kind have been received by the Company with reference to the rates issued by it under the Railway Rates and Charges, &c. Order, 1892.

I am, &c.

(Signed) W. J. KENNEDY,
Secretary.

Sir Courtenay Boyle, K.C.B.,
(Railway Department),
Board of Trade, London, S.W.

LISTS

HANDED BY THE

SECRETARY OF RAILWAY COMPANIES' ASSOCIATION

TO THE

PRESIDENT OF THE BOARD OF TRADE

SHOWING

ARTICLES WHICH ARE CHARGED AT RATES OTHER THAN THE ORDINARY CLASS RATES.

Applicable until 31st DECEMBER, 1893.

Presented to both Houses of Parliament by Command of Her Majesty.

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1893.

[C.—6912.] *Price* 2*d.*

List of Articles which are charged at Rates other than the Ordinary Class Rates.

Article.	To be charged at Rates as for Class
Agricultural Engines, Machines, &c., *see* Scale, p. 12.	
Agricultural Seeds	2*z*
Ale and Porter Finings, *in casks*	As "Ale and porter in casks."
Animals, *Live, in packages, including Pigs or Sheep in a crate, or a Calf in a sack, and others not elsewhere specified*	5
Minimum charge as for 2½ cwts. per package.	
Apples, *packed*	1
Aquaria, *Glass*	5*z*
Asphalte Apparatus, *for road-making*	C
Bagging, *old, in bundles, for paper-making, 3-ton lots*	C
Bags, *Nail, in bundles*	1
Basins, *Lavatory, see* Lavatory Stands.	
Baths	3*z*
Beadings, *not gilt, see* Joiners' Work.	
Bedsteads, *iron or other metallic, in bundles*	3*y*
Billiard Tables, *Slate Beds of, see* Slate Beds, &c.	
Blocks—	
For Paving, *wooden, actual machine weight.—Exceptional rates for Deals apply.*	
Flooring, *wooden (deal), actual machine weight.—(Exceptional rates for Planed Boards apply)*	1
Boards, *Oak Flooring, planed or grooved*	3*y*
Boilers, *Furnace and Kitchen, iron or steel*	2*y**
Boilers, *iron or steel*—	
Weighing less than a ton, occupying only one waggon	2
Not exceeding 30 feet, S. to S., *see* Note below	1
Above 30 feet, and not exceeding 45 feet, S. to S.	2
Above 45 feet, S. to S.	3
Requiring more than one waggon, or a special boiler waggon, to be charged not less than as for 2 tons per waggon, to be loaded by sender and unloaded by consignee.	
Boilers are not subject to the additional charge for Heavy Weights.	
NOTE.—*Boilers under 30 feet, except where specially provided for at lower rates, to be charged S. to S. at the exceptional rates recorded for Machinery when such exceptional rates are less than 1st Class, such rates not being subject to the additional charge for heavy weights.*	
Tools and Tackling sent with Boilers—*To be charged the Boiler rate; and on the return journey, when conveyed back by the same route as the outward journey, 1st Class.*	
Boiler Fittings, *when accompanying the Boiler, to be charged same rate as the Boiler.*	
Bones (*common*), *for Manure, not packed*	As Packed Manure.
Bottles and Jars, *earthenware or stoneware, packed or protected by wickerwork*	1
Not packed nor protected by wickerwork, S. to S., minimum charge as for two tons per waggon, exclusive of labour, O.R.	1
Brewers' Grains, *desiccated*	As Grain.
Bricks, *Common, glazed (red, blue, or brindled)*	20 per cent. over the rates for Common Bricks. ¶
Bricks, *brown, salt glazed*	10 per cent. over the rates for Fire Bricks. ¶
Bricks, *glazed, or enamelled*	20 per cent. over the rates for Fire Bricks. ¶

* Subject to special arrangement when of unusual length, bulk, or weight, or of exceptional bulk in proportion to weight.

y, *z*. See page 10.

¶ Fractions of a halfpenny and above to be charged as a penny, and fractions under a halfpenny to be dropped.

U 75880. Wt. 36613.

Article.	To be charged at Rates as for Class
Cans, *Water, see* Holloware.	
Canvas, *in bales*	2
Carriage, Cart, or Coach Wheels, *see* Wheels.	
Carrots, *see* Vegetables.	
Castings, *iron, light, e.o.h.p.*	3*y*
Do. *Sanitary, iron or steel, for Urinals and Water-closets*	3*z*
Do. *steel, e.o.h.p.*	3*y*
Casts, *see* Figures.	
Cattle Troughs, *see* Troughs.	
Celery, *see* Vegetables.	
Cerealine (*prepared Maize*)	2
Chairs, *Windsor and common, new*	5*y*
Do. *common, folding, in boxes, cases, crates, and parcels*	4*y*
Chairs and Seats, *Garden, e.o.h.p.*	4*z*
Cheese, *in hampers, O.R.*	2
Chimney Pieces, *marble or slate, e.o.h.p., packed*	3*z*
Cisterns, *e.o.h.p.*	4*y**
Cisterns, *iron or steel, without fittings fixed thereto*	3*y**
Citric Acid, *in casks or cases*	3
Cloth, *linen, bleached, tied in bundles, but not protected by wrappers, or not packed*	4*y*
Cocoa Nut Fibre Mats—*As* "Cocoa Nut Fibre Matting."	
Composition, *for retaining heat in boilers, packed*	C
Conservatories and Hothouses, *in parts*	5*y**
Cranework, *in parts, of wood or iron, or both wood and iron (except Boilers, Engines, and Winches forming part of Steam Cranes)*—	
Not exceeding 30 *feet in length*	C, and 10 per cent. * ¶
Exceeding 30 *and not exceeding* 60 *feet in length*	C, and 30 per cent. * ¶
DRAPERY.—*Mixed.*	
When a package contains articles comprised in the respective terms "Drapery, *heavy* †" "Drapery, *light* †" *and any of the following articles in the 5th Class, viz.:*—	
Artificial Flowers.	
Bonnet or Band Boxes, *new, in crates or boxes.*	
Cabinet Ware (*as* Furniture).	
Crape.	
Feathers.	
Furs.	
Gloves (*except cotton, woollen, and worsted*).	
Lace.	
Millinery.	
Muslins, *sewed.*	
Portmanteaus, *packed.*	
Ribbons.	
Silk (including Tussah), *manufactured.*	
Silk Plush.	
Silk Velvet.	
it may be described as "Mixed Drapery," *and in such case be charged at the exceptional rates for* "Drapery" *in the 4th Class, or at the Class rates as named hereunder, viz.:*—	
If packed in boxes, cases, parcels, or hampers	4
If packed in trusses, packs, or bales	3
Dust Preventers, *cast iron*	3*y*
Dyes, *in glass carboys*	5*y*
Earthenware, *not packed, S. to S., minimum charge as for* 2 *tons per waggon, exclusive of labour, O.R.*	1
Eggs, *in hampers or sieves*	4*y*
Emery Rollers and Emery Wheels, *e.o.h.p.*	3*y*
Fat, *raw, for candle or soap making, in casks or bags*	1
Fender Curbs, *see* Grates.	
Fenders, *e.o.h.p.*	5*z*

* Subject to special arrangement when of unusual length, bulk, or weight, or of exceptional bulk in proportion to weight.
† As per General Classification.
¶ Fractions of a halfpenny and above to be charged as a penny, and fractions under a halfpenny to be dropped.
y, z. *See* page 10.

Article.	To be charged at Rates as for Class
Figures, Casts, or Ornaments, *Alabaster, Bronze, Gypsum, Plaster, Stucco, or Terra Cotta*	5z*
Filters, *earthenware, packed*	3y
Finings, *Ale and Porter, in casks*	As "Ale and Porter in Casks."
Fire Clay, *in bulk—Exceptional rates for Fire Bricks apply.*	
Fire Clay (*in small lots*) *forwarded in same truck as Fire Bricks*	As Fire Bricks.
Fire Lighters, *packed*	1
Flax Seeds, *for sowing*	2z
Fleshings, *see* Spetches.	
Flour-dressing or Purifying Machines	3y*
Flower Pots, *clay, common, unglazed, not packed, exclusive of labour, O.R.*	C
Flower Stands, *wrought iron*	4z
Frilling Machines—	
In parts, packed	4y
Fitted up, packed	5y
Fuel Economisers, *iron or steel*	1y
Furniture Vans, *empty, actual weight, S. to S., e.o.h.p.*	2*
Furniture Vans, returned empty, if from the same station to which they were carried full. Minimum 2 tons *Between Stations in England, Scotland, and Wales, the outward journey charge on Furniture Vans going to be filled will be reduced to the Class C rate, with the minimum of 2 tons, upon proof of their having been forwarded loaded by railway from the station to which carried empty.*	C*
Furniture Van Bodies, *empty, actual weight, S. to S.*	3
Furniture Van Bodies, returned empty, if from the same station to which they were carried full, *S. to S.* *Between Stations in England, Scotland, and Wales, the outward journey charge on Furniture Van Bodies going to be filled will be reduced to the Returned Empties Scale rate, S. to S., upon proof of their having been forwarded loaded by railway from the station to which carried empty.*	At Returned Empties Scale.
Garden Arches	4y*
Glass—	
In boxes or cases, e.o.h.p.	4z
Crown	3z
Cut, *ornamental, for Doors*	5z
Flint, *e.o.h.p.*	3z
Plate, *rough*	3z
Do. *not silvered*	3z
Do. *silvered*	5z
Prepared, *for Photographers*	4z
Rolled	3z
Sheet	3z
Silver with Nitrate of Silver	3z
Stained	5z
Glass-House Pots	4z
Globes, Moons, or Shades—	
Glass, common	4z
Glass, e.o.h.p.	5z
Glucose and Saccharine—*Exceptional rates for Sugar apply.*	
Glue Pieces, *see* Spetches.	
Goods made partly of Cotton, Linen, Wool, Silk, &c., to be included in the term "Textile Fabrics, made of Mixed Cotton, Linen, Wool, or similar materials"	4
Grains, *Brewers', desiccated.—As* Grain.	
Grates, Ranges, or Stoves, and Iron Fender Curbs, *polished or enamelled, not packed, at O.R.*	3
Grates, Ranges, or Stoves, and Iron Fender Curbs, *polished or enamelled, packed*	4z
Grates, Ranges, or Stoves, and Iron Fender Curbs, *Common or Kitchen*	2z
Gravestones or Tombstones	4y
Grindstones, *not fitted up*	C
Hay, *machine-pressed* (*not hydraulic or steam-pressed*), *minimum* 2½ *tons per truck, exclusive of labour, O.R.* This regulation not to apply to any Hay that has not been compressed by the actual use of a compressing machine.	C

* Subject to special arrangement when of unusual length, bulk, or weight, or of exceptional bulk in proportion to weight.
y, *z*. *See* page 10.

Article.	To be charged at Rates as for Class
Hides, *e.o.h.p.*	3*z*
Holloware, *iron, including Kettles, Pans, Maslins (Pots for boiling Fruit), and Water Cans, in casks or crates*	3*y*
Holloware, *iron, including Kettles, Pans, Maslins (Pots for boiling Fruit), and Water Cans, e.o.h.p.*	4*y*
Hothouses, *see* Conservatories.	
Ice, *in 4-ton loads, exclusive of labour, O.R.*	C
Iron and Steel— Pipes (exclusive of Rain Water Pipes), *Gas, Water, Air, and Steam, in less lots than 2 tons*	1*y*
Jars, *see* Bottles and Jars.	
Joiners' Work (*common wood*)—Beadings and Mouldings (*not gilt, lacquered, or varnished*), Doors and Door Frames, Fittings and Fixtures for Buildings, Staircases, Balusters, and Hand Rails, Window Sashes, and Frames and Shutters	3*y*
Kettles, *see* Holloware.	
Kilting Machines— *In parts, packed*	4*y*
Fitted up, packed	5*y*
Knitting Machines— *In parts, packed*	4*y*
Fitted up, packed	5*y*
Lamp Chimneys, *glass*	3*z*
Lavatory Stands and Basins, *earthenware, complete, enamelled, packed*	3*y*
Lawn Mowers, *packed*	3*y*
Lawn Mowers, *not packed*	4*z*
Lead Piping, *e.o.h.p.*	2*y*
Lithographic Stones, *packed*	4*y*
Locomotive Engines, *in parts.*—Not to be subject to additions laid down for articles of exceptional weight.	
Looms, *not packed*	4*z*
Lustres and Vases, *glass*	5*z*
Machinery, *in parts, not packed, e.o.h.p.*	4*z**
Mangers, *see* Stable Fittings.	
Mangles (*box*), *packed*	2
Marble, *packed, and in slabs cemented together*	3*y*
Maslins, *see* Holloware.	
Mats, *cocoa nut fibre*—As "Cocoa Nut Fibre Matting."	
Meters, *Water, see* Water Meters.	
Mouldings, *not gilt, see* Joiners' Work.	
Nail Bags, *in bundles*	1
Netting, *of iron wire*	2*z*
Offals of Animals, *for human food* (Exceptional rates for Fresh Meat apply)	4*z*
Oils, Mineral, *in Owner's tank waggons (not giving off an inflammable vapour at less than 73° Fah., in 8-ton loads, S. to S., exclusive of labour, O.R.*	C
Onions, *see* Vegetables.	
Ornaments, *see* Figures.	
Ovens, *e.o.h.p.*	4*z*
Ovens, *Common or Kitchen*	2*z*
Overmantels, *cast iron, with Mirrors*	5*z*
Pans, *Chemical and Dye, iron or steel*	3*y**
Pans, *iron, see* Holloware.	
Paper, *in bales or bundles, other than for news-printing, packing, or wrappering*	10 per cent. over the rates for paper for news-printing, packing, or wrappering.¶
Patterns, *wood, for Castings*	4*y**
Pelts, *see* Spetches.	
Perambulators, *in parts, packed in cases, crates, or boxes*	4
Pipes, *see* Iron and Steel.	

* Subject to special arrangement when of unusual length, bulk, or weight, or of exceptional bulk in proportion to weight.

y, *z*. *See* page 10.

¶ Fractions of a halfpenny and above to be charged as a penny, and fractions under a halfpenny to be dropped.

Article.	To be charged at Rates as for Class
Pipes, *see* Rain Water Pipes.	
Pipes, *Smoking, clay*	4*y*
Plaiting Machines—	
In parts, packed	4*y*
Fitted up, packed	5*y*
Plants, *e.o.h.p.*	3*y*
Plants and Shrubs, *garden, in baskets, mats, pots, or tubs*	5*y*
Porter and Ale Finings, *in casks*	As Ale and Porter, in casks.
Potatoes, *see* Vegetables.	
Pots (*maslins*) *for boiling fruit, see* Holloware.	
Quicks, *in bundles*	3*z*
Rain Water Pipes, for Spoutings and their connexions, *cast iron*	2*y*
Ranges, *see* Grates.	
Reeds and Rushes	4*y*
Retorts, *clay, not packed, exclusive of labour, O.R.*	C
Retorts, *glass*	5*z*
Rhubarb, *see* Vegetables.	
Rollers, *copper, plain*	3
Rollers, *copper*	5*y*
Rollers, *Emery, see* Emery Rollers.	
Rolls, *iron, e.o.h.p.*	2*y*
Ropes, *wire*	2*y*
Rushes, *see* Reeds and Rushes.	
Saccharine and Glucose.—*Exceptional rates for Sugar apply.*	
Sanitary Castings, *see* Castings.	
Sausages and Saveloys	4*y*
Screws, *see* Spetches.	
Seats, *see* Chairs and Seats.	
Seeds, *for crushing for Oil.—Exceptional rates for Grain apply.*	
Seeds, *Agricultural*	2*z*
Seeds, *Flax, for sowing, see* Flax Seed.	
Serpentine, *manufactured, packed*	5*y*
Sewing Machine Stands, *in parts, packed in cases or frames*	3*y*
Sewing Machines, *fitted up, packed*	5*y*
Shades, *glass, see* Globes.	
Shoddy Manure, *in bags*	As Packed Manure.
Sheet Steel	3*y*
Shrubs (*Garden*), *see* Plants.	
Shrubs and Trees, *in bundles*	3*z*
Silk Waste, *undressed*	As Silk.
Sinks, *earthenware or fire-clay, not packed, exclusive of labour, O.R.*	C
Sinks, *enamelled*	3*y*
Do. *cast iron, not enamelled*	2*y*
Skins, *Hare and Rabbit, undressed*	2
Slate Beds of Billiard Tables, *packed in cases*	3*z*
Slate Slabs, *e.o.h.p.*	3*z*
Spetches, Screws, Pelts, Fleshings, and Glue Pieces, *wet, from Tanners, not packed, exclusive of labour, O.R.*	C
Stable Fittings (*except enamelled*), *iron or steel*	2*y*
Stable Fittings and Mangers, *iron, enamelled*	3*y*
Stone, *decorative, carved, for decorating the interior of buildings*	4*y*
Stoves, *see* Grates.	
Stoves, *fireclay tile*	4*y*
Stoves, *Gas or Oil*	3*z*

y, z. See page 10.

Article.	To be charged at Rates as for Class
Straw, *machine-pressed* (*not hydraulic or steam-pressed*), *minimum* 2½ *tons per truck, exclusive of labour, O.R.*	C
This regulation not to apply to any Straw that has not been compressed by the actual use of a compressing machine.	
Sulphuric Acid (or Oil of Vitriol), *exclusive of labour, O.R.*—	
In loose tanks, in Company's waggons	C
To be charged the gross weight, including the tank; Empty tanks at the Returned Empty rate.	
In loose tanks, in Owner's waggons.—To be charged the gross weight, including the tank	C
In owner's tank waggons	C
Syrup (not Fruit Syrup), *in tins packed in cases*	1
Tables, *cast iron or cast steel*	4*z*
Tanks, *e.o.h.p.*	4*y**
Tanks, *iron or steel, without fittings fixed thereto*	3*y**
Tartaric Acid, *in casks or cases*	3
"Textile Fabrics, made of Mixed Cotton, Linen, Wool, or similar Materials," 4th Class. (This term to include "Goods made partly of Cotton, Linen, Wool, Silk, &c.")	
Tin crystals, *in casks or kegs*	2
Tomatoes, *in cases with lids*	2
Tombstones, *see* Gravestones.	
Trees and Shrubs, *in bundles*	3*z*
Troughs, *Cattle and other, iron or steel*	3*y*
Valves, *Gas or Water, iron or steel*	1*y*
Vans and Van Bodies (*Furniture*), *see* Furniture.	
Vases, *see* Lustres.	
Vegetable Washing Machines	4*y*
Vegetables, viz.:—	
Carrots, *for cattle feeding in bulk* (*not bunched*)	10 per cent. over rates for Mangel Wurzel and Turnips for Cattle feeding.¶
Potatoes, *in casks, barrels, hampers, or peds*, on and after the 1st July up to and including 31st March—	
In 2-*ton lots and above*	C
Less lots	1
New Potatoes, from the 1st April up to and including 30th June—	
In 2-*ton lots*	1
Onions (*not peeled for pickling*)—	
Not packed, 3-*ton lots*, *S. to S.*	C
Packed, 2-*ton lots*, *S. to S.*	C
Exceptional rates for Vegetables in Class C apply.	
Celery, *in bundles*— *In* 1-*ton lots and under* 2 *tons*	1
Rhubarb, *in bundles*— *In* 2-*ton lots*	C
Exceptional rates for Vegetables in Class C, *not* applicable.	
Vegetables, *e.o.h.p.*—	
Loose, 3-*ton lots*	C
Packed, 2-*ton lots*	C
,, *in* 1-*ton lots and under* 2 *tons*	1
Vegetables, *in brine*, 2-*ton lots*	C
Vitriol, *Oil of*, *see* Sulphuric Acid.	
Washing and Wringing Machines, *not packed, O.R.*	3
Washstand Tops, *marble, packed*	3*z*
Water Cans, *see* Holloware.	
Water Meters	3*y*

* Subject to special arrangement when of unusual length, bulk, or weight, or of exceptional bulk in proportion to weight.
y, *z*. See page 10.
¶ Fractions of a halfpenny and above to be charged as a penny, and fractions under a halfpenny to be dropped.

Article.	To be charged at Rates as for Class
Wax, *Common, for sealing bottles*	1
Weed Destroyer, *in casks or iron drums, or in bottles or tins packed in cases or casks*	2
Wheel Centres, *Locomotive* (to be included in the Iron and Steel List)	C
Wheels, *Carriage, Coach, and Cart*	4*y*
Wheels and Rollers, *Emery, see* Emery.	
Wheels, *Perambulator, Bicycle and Tricycle*	3
Wire, *iron or steel, e.o.h.p.*	2*z*
Wire, *lead*	2*y*
Wooden Blocks for Paving, *see* Blocks.	
Wooden Blocks for Flooring, *see* Blocks.	
Woodwork, *carved, for decorating the interior of buildings*	5*y*
Wool Noils and Wool Tops	As Wool, raw.

y, z. See page 10.

REDUCED CLASS RATES AT OWNER'S RISK.

ARTICLES marked with the letter "*y*" or "*z*" in the foregoing LIST are charged at the REDUCED CLASS RATES shown in the following TABLE, on condition that the ARTICLES to which such REDUCED RATES are applied shall be carried at the OWNER'S RISK.

Class Rate not exceeding	Reduced Rates.		Class Rate not exceeding	Reduced Rates.		Class Rate not exceeding	Reduced Rates.		Class Rate not exceeding	Reduced Rates.	
	Column *y*.	Column *z*.		Column *y*.	Column *z*.		Column *y*.	Column *z*.		Column *y*.	Column *z*.
Per Ton. *s.* *d.*	Per Ton. *s.* *d.*	Per Ton. *s.* *d.*	Per Ton. *s.* *d.*	Per Ton. *s.* *d.*	Per Ton. *s.* *d.*	Per Ton. *s.* *d.*	Per Ton. *s.* *d.*	Per Ton. *s.* *d.*	Per Ton. *s.* *d.*	Per Ton. *s.* *d.*	Per Ton. *s.* *d.*
5 5	4 10	4 9	27 6	25 3	24 7	49 7	45 9	44 6	83 4	76 8	74 8
5 10	5 3	5 1	27 11	25 8	25 0	50 0	46 1	44 10	84 2	77 6	75 5
6 3	5 8	5 6	28 4	26 1	25 4	50 5	46 6	45 3	85 0	78 3	76 2
6 8	6 0	5 10	28 9	26 5	25 9	50 10	46 10	45 7	85 10	79 0	76 11
7 1	6 5	6 3	29 2	26 10	26 1	51 3	47 3	46 0	86 8	79 9	77 8
7 6	6 9	6 7	29 7	27 3	26 6	51 8	47 8	46 4	87 6	80 7	78 5
7 11	7 2	7 0	30 0	27 7	26 10	52 1	48 0	46 9	88 4	81 4	79 2
8 4	7 7	7 4	30 5	28 0	27 3	52 6	48 5	47 1	89 2	82 1	79 11
8 9	7 11	7 9	30 10	28 4	27 7	52 11	48 10	47 6	90 0	82 10	80 8
9 2	8 4	8 1	31 3	28 9	28 0	53 4	49 2	47 10	90 10	83 8	81 5
9 7	8 9	8 6	31 8	29 2	28 4	53 9	49 7	48 3	91 8	84 5	82 2
10 0	9 1	8 10	32 1	29 6	28 9	54 2	49 11	48 7	92 6	85 2	82 11
10 5	9 6	9 3	32 6	29 11	29 1	54 7	50 4	49 0	93 4	85 11	83 8
10 10	9 10	9 7	32 11	30 4	29 6	55 0	50 9	49 4	94 2	86 9	84 5
11 3	10 3	10 0	33 4	30 8	29 10	55 5	51 1	49 9	95 0	87 6	85 2
11 8	10 8	10 4	33 9	31 1	30 3	55 10	51 6	50 1	95 10	88 3	85 11
12 1	11 0	10 9	34 2	31 5	30 7	56 3	51 11	50 6	96 8	89 0	86 8
12 6	11 5	11 1	34 7	31 10	31 0	56 8	52 3	50 10	97 6	89 10	87 5
12 11	11 10	11 6	35 0	32 3	31 4	57 1	52 8	51 3	98 4	90 7	88 2
13 4	12 2	11 10	35 5	32 7	31 9	57 6	53 0	51 7	99 2	91 4	88 11
13 9	12 7	12 3	35 10	33 0	32 1	57 11	53 5	52 0	100 0	92 1	89 8
14 2	12 11	12 7	36 3	33 5	32 6	58 4	53 10	52 4	101 8	93 3	90 9
14 7	13 4	13 0	36 8	33 9	32 10	58 9	54 2	52 9	103 4	94 10	92 3
15 0	13 9	13 4	37 1	34 2	33 3	59 2	54 7	53 1	105 0	96 4	93 9
15 5	14 1	13 9	37 6	34 6	33 7	59 7	55 0	53 6	106 8	97 11	95 3
15 10	14 6	14 1	37 11	34 11	34 0	60 0	55 4	53 10	108 4	99 5	96 9
16 3	14 11	14 6	38 4	35 4	34 4	60 10	55 11	54 5	110 0	101 0	98 3
16 8	15 3	14 10	38 9	35 8	34 9	61 8	56 8	55 2	111 8	102 6	99 9
17 1	15 8	15 3	39 2	36 1	35 1	62 6	57 5	55 11	113 4	104 1	101 3
17 6	16 0	15 7	39 7	36 6	35 6	63 4	58 2	56 8	115 0	105 7	102 9
17 11	16 5	16 0	40 0	36 10	35 10	64 2	59 0	57 5	116 8	107 2	104 3
18 4	16 10	16 4	40 5	37 3	36 3	65 0	59 9	58 2	118 4	108 8	105 9
18 9	17 2	16 9	40 10	37 7	36 7	65 10	60 6	58 11	120 0	110 3	107 3
19 2	17 7	17 1	41 3	38 0	37 0	66 8	61 3	59 8	121 8	111 9	108 9
19 7	18 0	17 6	41 8	38 5	37 4	67 6	62 1	60 5	123 4	113 4	110 3
20 0	18 4	17 10	42 1	38 9	37 9	68 4	62 10	61 2	125 0	114 10	111 9
20 5	18 9	18 3	42 6	39 2	38 1	69 2	63 7	61 11	126 8	116 5	113 3
20 10	19 1	18 7	42 11	39 7	38 6	70 0	64 4	62 8	128 4	117 11	114 9
21 3	19 6	19 0	43 4	39 11	38 10	70 10	65 2	63 5	130 0	119 6	116 3
21 8	19 11	19 4	43 9	40 4	39 3	71 8	65 11	64 2	131 8	121 0	117 9
22 1	20 3	19 9	44 2	40 8	39 7	72 6	66 8	64 11	133 4	122 7	119 3
22 6	20 8	20 1	44 7	41 1	40 0	73 4	67 5	65 8	135 0	124 1	120 9
22 11	21 1	20 6	45 0	41 6	40 4	74 2	68 3	66 5	136 8	125 8	122 3
23 4	21 5	20 10	45 5	41 10	40 9	75 0	69 0	67 2	138 4	127 2	123 9
23 9	21 10	21 3	45 10	42 3	41 1	75 10	69 9	67 11	140 0	128 9	125 3
24 2	22 2	21 7	46 3	42 8	41 6	76 8	70 6	68 8	141 8	130 3	126 9
24 7	22 7	22 0	46 8	43 0	41 10	77 6	71 4	69 5	143 4	131 10	128 3
25 0	23 0	22 4	47 1	43 5	42 3	78 4	72 1	70 2	145 0	133 4	129 9
25 5	23 4	22 9	47 6	43 9	42 7	79 2	72 10	70 11	146 8	134 11	131 3
25 10	23 9	23 1	47 11	44 2	43 0	80 0	73 7	71 8	148 4	136 5	132 9
26 3	24 2	23 6	48 4	44 7	43 4	80 10	74 5	72 5	150 0	138 0	134 3
26 8	24 6	23 10	48 9	44 11	43 9	81 8	75 2	73 2			
27 1	24 11	24 3	49 2	45 4	44 1	82 6	75 11	73 11			

* ROLLING STOCK.

PRIVATE RAILWAY TRUCKS transferred from one party to another are to be charged carriage on the first journey thereafter, which charge must be prepaid in the same manner as though the trucks were sent new from the makers; but when the trucks belong to the same party, and are only transferred from one district to another, no charge is to be made for a similar distance to that charged for on first journey, provided the trucks be sent over the same Company's line, and that they do not change hands in hiring.

The charges for waggons going to or returning from repairs should be based upon the actual distance such waggons are conveyed; but if the damage should have taken place on a return journey, the charges should be made only for the distance the waggons are carried in excess of the distance they would have been taken had the return journey been performed safely.

* RETURNED EMPTIES.

FISH PACKAGES :—

For distances exceeding 350 miles the following charges apply :—

Distances.	S. to S. s.	d.	
Exceeding 350 miles but not exceeding 450 miles	1	0	per cwt.
„ 450 „ „ 550 „	1	1	„
„ 550 „ „ 650 „	1	2	„
„ 650	1	3	„

Minimum charge 4*d.* No less charge than as for 56 lbs.

ALE AND PORTER CASKS
VINEGAR CASKS
CIDER AND PERRY CASKS
CASKS TO DISTILLERS
SACCHARINE CASKS AND PAILS (to be nested)

To be charged same rate per ton as when received full, when less than the ordinary General Scale charge for Returned Empties.
Minimum charge 6*d.* for a single consignment.

MINERAL WATER BOTTLES, ALE, PORTER, WINE AND SPIRIT BOTTLES (PACKED) :—

To be charged at the ordinary General Scales for Returned Empties, but the charge not to exceed 1st Class rate.

FRESH MEAT WRAPPERS AND CLOTHS :—

Distances.	s.	d.	
Not exceeding 25 miles	0	6	per cwt.
Exceeding 25 miles but not exceeding 50 miles	0	7	„
„ 50 „ „ 100 „	0	10	„
„ 100 „ „ 150 „	1	0	„
„ 150 „ „ 200 „	1	2	„
„ 200 „ „ 250 „	1	4	„
„ 250 „ „ 300 „	1	6	„
„ 300 „ „ 350 „	1	8	„
„ 350 „ „ 400 „	1	9	„
„ 400 „ „ 450 „	1	10	„
„ 450 „ „ 500 „	1	11	„
Exceeding 500 miles	2	0	„

Minimum charges { Up to 150 miles - - - 6*d.*
151 miles and above - - 8*d.*

EMPTIES NOT RETURNED.

EMPTIES NOT RETURNED - - -	To be charged 2nd Class rates, minimum 1 ton per truck, except otherwise provided for.
FISH PACKAGES - - - -	To be charged 10 per cent. over the Class C rates, minimum 1 ton per truck, S. to S.
EMPTY CASKS TO DISTILLERS - -	As Empty Casks *returned* to Distillers.
GRAIN SACKS going to be filled (whether returning to the same Stations or being sent to other Stations).	To be charged under the Scale for Returned Empty Sacks and Bags.

* NOTE.—In the case of traffic to London charged according to these Mileage Scales, the charges are applicable only to the Stations of the Company carrying the traffic into London, and not beyond to any other London Station.

* AGRICULTURAL ENGINES, MACHINES, &c.

SCALE OF CHARGES

FOR

Agricultural and Portable Steam and Traction Engines, Traction Engine Waggons, Vertical Steam Engines, Horizontal Steam Engines, Steam Ploughs, Steam Plough Vans, Steam Tramway Engines, Threshing Machines, Hay Pressing Machines, and Road Rollers.

Exclusive of Loading and Unloading and Carting.

Miles.	Minimum 2 tons and under 5 tons.	Minimum 5 tons.	Miles.	Minimum 2 tons and under 5 tons.	Minimum 5 tons.	Miles.	Minimum 2 tons and under 5 tons.	Minimum 5 tons.
	Per ton. s. d.	Per ton. s. d.		Per ton. s. d.	Per ton. s. d.		Per ton. s. d.	Per ton. s. d.
1	5 0	5 0	33	9 2	8 7	65	2d. per ton additional for each mile beyond 60 miles.	12 2
2	5 0	5 0	34	9 4	8 9	66		12 3
3	5 0	5 0	35	9 6	8 10	67		12 3
4	5 0	5 0	36	9 8	9 0	68		12 4
5	5 0	5 0	37	9 10	9 1	69		12 4
6	5 0	5 0	38	10 0	9 3	70		12 5
7	5 0	5 0	39	10 2	9 5	71		12 5
8	5 0	5 0	40	10 4	9 7	72		12 6
9	5 0	5 0	41	10 5	9 8	73		12 6
10	5 0	5 0	42	10 6	9 10	74		12 7
11	5 0	5 0	43	10 7	9 11	75		12 7
12	5 0	5 0	44	10 8	10 1	76		12 8
13	5 3	5 3	45	10 9	10 2	77		12 8
14	5 6	5 6	46	10 10	10 4	78		12 9
15	5 9	5 9	47	10 11	10 5	79		12 9
16	6 0	6 0	48	11 0	10 6	80		12 10
17	6 3	6 3	49	11 1	10 7	81		12 10
18	6 6	6 6	50	11 2	10 9	82		12 11
19	6 9	6 9	51	11 3	10 10	83		12 11
20	7 0	7 0	52	11 4	11 0	84		13 0
21	7 2	7 1	53	11 5	11 1	85		13 0
22	7 4	7 3	54	11 6	11 3	86		13 1
23	7 6	7 4	55	11 7	11 4	87		13 1
24	7 8	7 6	56	11 8	11 6	88		13 2
25	7 10	7 7	57	11 9	11 7	89		13 2
26	8 0	7 9	58	11 10	11 9	90		1½d. per ton to be added for each additional mile. Fractions of 1d. not to be charged.
27	8 2	7 10	59	11 11	11 10	and above		
28	8 4	8 0	60	12 0	12 0			
29	8 6	8 1	61	2d. per ton additional for each mile beyond 60 miles.	12 0			
30	8 8	8 3	62		12 1			
31	8 10	8 4	63		12 1			
32	9 0	8 6	64		12 2			

NOTE.—Articles carried at Rates in accordance with the foregoing Scale are not subject to the additions for articles of exceptional length, bulk, or weight, or of exceptional bulk in proportion to weight.

Agricultural Machines and Implements, including Agricultural Carts and Waggons (*except Steam Engines, Steam Ploughs, Steam Plough Vans, Threshing and Hay-pressing Machines in lots of 2 tons or above, and Iron Harrows*)	To be charged at 3rd Class, at Owner's risk.
In 1-ton lots	2nd Class, at Owner's risk.

EXPLOSIVES AND OTHER DANGEROUS GOODS.

1. Compressed Oxygen Gas.—The Class 3 rates to apply, including delivery.

2. Explosives, Class III.—

   Div. I.—Amberite No. 1.—To be treated and charged as Ballistite.

   Div. II.—Amberite No. 2, and Fortisine.—To be treated and charged as Bellite.

3. Ballistite Paste.—The carriage by such Companies as do not refuse to carry it should be provided for by Regulations made by each Company as applicable to its own case.

* In the case of traffic to London charged according to this Mileage Scale, the charges are applicable only to the Stations of the Company carrying the traffic into London, and not beyond to any other London Station.

Supplementary List of Articles which are charged at Rates other than the Ordinary Class Rates.

APPLICABLE UNTIL 31st DECEMBER 1893.

Article.	To be charged at Rates as for Class
Alabastine	As Colours, in casks or iron drums, or in tins packed in cases.
Baking Powder And to be included in Grocery List No. 2.	2
Basket work	As Baskets, *e.o.h.p.*
Bicarbonate of Soda.—In the Alkali List the entry to read :—"Bicarbonate of Soda, *in casks or bags.*"	
Bisulphite of Lime, *in casks.*—To be charged as Finings, at the Ale and Porter rates.	
Blocks or Bricks, *Terra cotta*	20 per cent. over the rates for Fire Bricks.
Blooms, Billets and Ingots, *not foreign, iron or steel.*—To be charged 10 per cent. over the Exceptional rates for Pig Iron, minimum charge as for 4 tons per truck. The charge not to exceed the Class B. rates, nor the Exceptional rates noted for the Iron and Steel List in Class B.	
Boats (rowing) and Canoes, *minimum* 1 *ton per truck, S. to S., O.R., exclusive of labour*	3
Bobbins, *in cases*	2
Boxes, *cardboard, in cases*	4*y*
Canoes and Rowing Boats, *minimum* 1 *ton per truck, S. to S., O.R., exclusive of labour*	3
Caramel (*Burnt Sugar*) *for Brewing purposes, in casks or bags*	1
Carboys, *glass empty* (*new*), *protected by basket-work or tubs.—Minimum charge as for* 1 *ton, S. to S.*	3
When not so protected, to be carried at Owner's risk only.—Minimum charge as for 1 *ton, S. to S.*	3
Cards for Carding Machines, *when declared in waterproof boxes*	4
Carriages on their own wheels, *packed in cases or crates*	As Carriage bodies—minimum charge as for 5 cwts.
Chimney Pots, *earthenware or fire-clay, O.R.*	As Sanitary Tubes
Cigar Boxes, *in cases*	3
Cisterns, *wrought or cast iron, not enamelled*	3*y*
Composition for preventing incrustation in Boilers— *In casks, cases, or boxes* *In tins*	1 2
Granite, *polished or dressed, in blocks or slates exceeding* 2 *inches in thickness, O.R.*	C
Hair for Plasterers' purposes, *dry*	2
Heavy Scrap, *not foreign, iron or steel.*—To be charged 10 per cent. over the Exceptional rates for Pig Iron, minimum charge as for 4 tons per truck. The charge not to exceed the Class B. rates, nor the Exceptional rates noted for the Iron and Steel List in Class B.	
Hop Bitters, *in casks*	As Drugs in casks.
Lime Water, *in casks.*—To be charged as Finings, at the Ale and Porter rates.	
Mattresses, *packed*	3
Perambulators, *in parts, packed in crates*	4*y*
Provender, Horse or Cattle, *minimum* 2 *tons per truck*	3 plus 25 per cent.
Skewers, *wooden, packed*	2
Spetches, Screws, Fleshings, and Glue Pieces, *wet, from Tanners, in bags*	C

Article.	To be charged at Rates as for Class
Table Salt, *packed.*—To be charged 10 per cent. over the rates for Salt, *in bulk, minimum 5 tons per truck, at O.R., O.W., exclusive of labour.*	
Tanks, *wrought or cast iron, not enamelled* - - - - - -	3*y*
Terra Cotta Blocks or Bricks - - - - - - - -	20 per cent. over the rates for Fire Bricks.
Wheels (Fly and Spur), *not requiring a specially constructed vehicle for their conveyance, O.R.*—To be charged at the Exceptional rates for Iron in Class I.	
Wicker work - - - - - - - - - -	As Baskets, *e.o.h.p.*
Wire Netting, *patent, for Mattresses, in rolls covered with canvas* - - -	2*z*
Yarn (*flax, hemp, tow, jute, and coir*) - - - - - -	As Yarn, Twist, and Weft (*Cotton and Linen*).

*ROLLING STOCK.

Private Railway Waggons for repairs, whether on their own wheels, or loaded on other waggons, both going to and returning from the Contractors' shops, must be charged half the rates for New Waggons on their own wheels—minimum charge 2*s.* 6*d.* per waggon.

Private Railway Waggons from Waggon Companies' Works, let out on second or subsequent hiring, whether to the same hirer as previously or not, or returning to the owner after the period of hiring has expired, must be charged half the rates for New Railway Waggons on their own wheels—minimum charge, 2*s.* 6*d.*

The following Regulation to be substituted in lieu of the existing Clause 4 :—

Railway Trucks *running* on their own Wheels, e.o.h.p. :—

——	Not exceeding 6 tons each in weight. Per truck, S. to S.	Exceeding 6 tons each in weight. Per truck, S. to S.
For the first 50 miles or any part of such distance -	4*d.* per mile	5*d.* per mile.
For the next 50 miles or any part of such distance -	2½*d.* „	3*d.* „
For the remainder of the distance - - - -	1½*d.* „	2*d.* „
Minimum charge, 2*s.* 6*d.* per truck.		

PARAFFIN AND PETROLEUM CASKS.

Paraffin and Petroleum Casks empty, whether returned to the original sender or not, to be charged at the ordinary Returned Empty Scale.—Minimum, 1 ton per truck.

*RETURNED EMPTIES.

Meat, Game, Poultry, Butter, Rabbit, Fruit, and Vegetable Empties, Wool Sheets and Returned Empty Yeast Baskets to be charged at the Scale for Returned Fresh Meat Wrappers and Cloths.

Paper Shields and Rollers to be charged at the rate for Paper when less than the ordinary General Scale charge for Returned Empties.

* Note.—In the case of traffic to London charged according to these Mileage Scales, the charges are applicable only to the Stations of the Company carrying the traffic into London, and not beyond to any other London Station.

RAILWAYS.

(Session 1893.)

REPORT

BY THE

BOARD OF TRADE

ON

AN APPLICATION MADE DURING THE YEAR 1892,

UNDER THE RAILWAY COMPANIES POWERS ACT, 1864,

AND OF THE

PROCEEDINGS OF THE BOARD OF TRADE WITH RESPECT THERETO.

Presented to both Houses of Parliament by Command of Her Majesty.

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1893.

[C.—7055.] *Price* ½*d.*

RAILWAYS.

(Session 1893.)

Report by the Board of Trade on an Application made during the Year 1892, under the Railway Companies Powers Act, 1864, and of the Proceedings of the Board of Trade with respect thereto.

EASINGWOLD RAILWAY.

Application for a Certificate under the Railway Companies Powers Act, 1864, was made in November 1892 by the Easingwold Railway Company, who sought for authority to raise further sums of money, not exceeding in the whole 1,500*l.*, by the creation and issue of new shares or new stock, either ordinary or preference, or partly ordinary and partly preference, as they might think proper, and to borrow on mortgage, in addition to the sums they were already authorised to borrow, any sum not exceeding 500*l.*

Proof was given to the satisfaction of the Board of Trade that the Company had complied with the general rules as to deposit and notice, and with the provisions of the Act of Parliament, and that the application had been submitted to, and approved by, the members of the Company, at a meeting held specially for that purpose, in the same manner as would be required under the Standing Orders of Parliament in the case of a Railway Bill.

No objection to the application was received, and the Board of Trade settled the Draft Certificate, and laid the same before both Houses of Parliament on the 21st March 1893.

Neither House having resolved within the prescribed period that the Certificate ought not to be made, the Board of Trade issued a Certificate in conformity with the draft, and caused the same to be published in the "London Gazette" of the 12th May 1893.

A copy of the Certificate as issued is annexed.

COURTENAY BOYLE,
Secretary to the Board of Trade.

Board of Trade, Whitehall Gardens,
June 1893.

The Easingwold Railway Company.

Certificate of the Board of Trade for Authority to raise Additional Capital.

Whereas the Easingwold Railway Company, herein-after referred to as "the Company," have complied with the requirements of "The Railway Companies Powers Act, 1864."

Now, therefore, the Board of Trade do, by this their Certificate, in pursuauce of the said Act, as amended by the Railway (Powers and Construction) Acts, 1864; Amendment Act, 1870; and by virtue and in exercise of the powers thereby in them vested, and of every other power enabling them in this behalf, certify as follows:—

Incorporation of Companies Clauses Act.

1. "The Companies Clauses Acts," as amended by "The Companies Clauses Act, 1869," are incorporated with this Certificate.

I 76889. Wt. 4379.

Power to raise additional Capital.

2. In addition to the capital already authorised to be raised by the Company they may from time to time—

1. Raise for the purposes of their undertaking any further sums not exceeding in the whole one thousand five hundred pounds by the creation and issue of new shares or new stock, either ordinary or preference, or partly ordinary and partly preference, as they may think proper, and
2. Borrow on mortgage for the purposes of their undertaking and in respect of the additional capital authorised to be raised by this Certificate, any sum not exceeding in the whole five hundred pounds.

Calls.

3. One-fifth of the amount of a share shall be the greatest amount of a call, and three months at least shall be the interval between successive calls, and three-fourths of the amount of a share shall be the utmost aggregate amount of the calls made in any year upon any share.

Appointment of Receiver.

4. The mortgagees under this Certificate may enforce payment of arrears of interest or principal, or of principal and interest, on their mortgages by appointment of a receiver. In order to authorise the appointment of a receiver, the amount owing to the mortgagees, by whom application for a receiver is made, shall not be less than five hundred pounds in the whole.

As to Votes of Proprietors of such Shares.

5. The proprietors of any shares or stock to be created and issued under the authority of this Certificate shall be entitled to such number of votes in respect thereof as the nominal amount represented by such shares or stock would have entitled them to if the same had been original shares or stock of the Company; and the proprietors of such new shares or stock shall, except as in this Certificate specially provided, be entitled to the same rights and privileges, in all respects, and be subject to the same obligations and liabilities, as the proprietors of the original shares or stock of the Company.

Priority of existing Mortgages.

6. Every mortgage duly granted by the Company before the time when this Certificate comes into operation and subsisting at that time, shall, during the continuance thereof, have priority over all mortgages granted under this Certificate.

Power to create Debenture Stock.

7. The Company may create and issue debenture stock, subject to the provisions of Part III. of "The Companies Clauses Act, 1863," but, notwithstanding anything therein contained, the interest of all debenture stock at any time after this Certificate comes into operation, created and issued by the Company, shall rank pari passu with the interest of all mortgages at any time after this Certificate comes into operation granted by the Company, and shall have priority over all principal moneys secured by such mortgages, and notice of this provision shall be indorsed on such mortgages and on the certificates of such debenture stock.

Costs of Certificate.

8. All costs, charges, and expenses of or incidental to preparing and procuring this Certificate shall be paid by the Company.

Short Title.

9. This Certificate may be cited as "The Easingwold Railway Certificate, 1893."

Dated this 8th day of May 1893.

COURTENAY BOYLE,
Acting Secretary to the Board of Trade.

Board of Trade, Whitehall.

RETURN to an Order of the Honourable The House of Commons, dated 14 November 1893;—*for*,

RETURN "showing the Numbers of Servants reported to the BOARD OF TRADE by the following Railway Companies as having been Killed and Injured by Accidents in which the Movement of Vehicles was concerned, during the Years 1870, 1873, 1877, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, and 1892; the computed Number of Servants on each Railway on the 31st day of December in each of those Years; and the proportion between Deaths and Injuries and the Number of Servants: on the Great Eastern; Great Northern; Lancashire and Yorkshire; North Eastern; London and North Western; Midland; Great Western; London and South Western; South Eastern; London, Brighton, and South Coast; Caledonian; North British; and Highland Railways; with the same Particulars for the United Kingdom, in the following Form:—

YEAR ———.

NAME OF RAILWAY.	Number of Persons Employed on 31st day of December.	Number of Persons Killed.	Number of Persons Injured.	Proportion of Killed to Employed.	Proportion of Injured to Employed.

Board of Trade, 23 January 1894.

COURTENAY BOYLE.

(*Mr. John Ellis.*)

Ordered, by The House of Commons, *to be Printed*, 13 *February* 1894.

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90, WEST NILE STREET, GLASGOW; or
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RETURN showing the Numbers of SERVANTS reported to the BOARD OF TRADE by the following RAILWAY COMPANIES as having been Killed and Injured by Accidents in which the Movement of Vehicles was concerned, during the Years 1870, 1873, 1877, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, and 1892; the computed Number of Servants on each Railway on the 31st day of December in each of those Years; and the proportion between Deaths and Injuries and the Number of Servants: on the Great Eastern; Great Northern; Lancashire and Yorkshire; North Eastern; London and North Western; Midland; Great Western; London and South Western; South Eastern; London, Brighton, and South Coast; Caledonian; North British; and Highland Railways; with the same Particulars for the United Kingdom.

YEAR 1870.

NAME OF RAILWAY.	Computed Number of Persons Employed on 31st December.*	Number of Persons Killed.	Number of Persons Injured.	Proportion of Killed to Employed.	Proportion of Injured to Employed.
1.	2.	3.	4.	5.	6.
Great Eastern	12,251	—	—	—	—
Great Northern	13,989	3	3	1 in 4,663	1 in 4,663
Lancashire and Yorkshire	15,790	1	1	1 in 15,790	1 in 15,790
North Eastern	25,011	5	10	1 in 5,002	1 in 2,501
London and North Western	41,512	3	47	1 in 13,837	1 in 883
Midland	30,494	—	8	—	1 in 3,811
Great Western	26,829	5	2	1 in 5,365	1 in 13,414
London and South Western	10,652	13	4	1 in 819	1 in 2,663
South Eastern	6,922	7	3	1 in 988	1 in 2,307
London, Brighton, and South Coast	6,965	3	1	1 in 2,321	1 in 6,965
Caledonian	10,540	29	12	1 in 363	1 in 878
North British	10,775	4	7	1 in 2,693	1 in 1,539
Highland	1,405	1	—	1 in 1,405	—
TOTAL FOR UNITED KINGDOM	274,535	115	129	1 in 2,387	1 in 2,128

YEAR 1873.

NAME OF RAILWAY.	Computed Number of Persons Employed on 31st December.*	Number of Persons Killed.	Number of Persons Injured.	Proportion of Killed to Employed.	Proportion of Injured to Employed.
1.	2.	3.	4.	5.	6.
Great Eastern	12,251	26	28	1 in 471	1 in 437
Great Northern	13,989	31	13	1 in 451	1 in 1,076
Lancashire and Yorkshire	15,790	62	39	1 in 254	1 in 404
North Eastern	25,011	81	143	1 in 308	1 in 174
London and North Western	41,512	114	234	1 in 364	1 in 177
Midland	30,494	92	91	1 in 331	1 in 335
Great Western	26,829	53	138	1 in 506	1 in 194
London and South Western	10,652	27	9	1 in 394	1 in 1,183
South Eastern	6,922	12	7	1 in 576	1 in 988
London, Brighton, and South Coast	6,965	12	3	1 in 580	1 in 2,321
Caledonian	12,666	67	137	1 in 189	1 in 92
North British	10,775	46	93	1 in 234	1 in 115
Highland	1,405	2	2	1 in 702	1 in 702
TOTAL FOR UNITED KINGDOM	274,535	773	1,171	1 in 355	1 in 234

Year 1877.

NAME OF RAILWAY. 1.	Computed Number of Persons Employed on 31st December.* 2.	Number of Persons Killed. 3.	Number of Persons Injured. 4.	Proportion of Killed to Employed. 5.	Proportion of Injured to Employed. 6.
Great Eastern	12,251	27	106	1 in 453	1 in 115
Great Northern	13,989	30	83	1 in 466	1 in 168
Lancashire and Yorkshire	15,790	49	287	1 in 322	1 in 55
North Eastern	25,011	37	209	1 in 675	1 in 119
London and North Western	41,512	101	338	1 in 411	1 in 122
Midland	30,494	72	173	1 in 423	1 in 176
Great Western	26,829	58	292	1 in 462	1 in 91
London and South Western	10,652	29	27	1 in 367	1 in 394
South Eastern	6,922	20	3	1 in 346	1 in 2,307
London, Brighton, and South Coast	6,965	12	53	1 in 580	1 in 131
Caledonian	12,666	30	116	1 in 422	1 in 109
North British	10,775	31	157	1 in 347	1 in 68
Highland	1,405	3	5	1 in 468	1 in 281
Total for United Kingdom	274,535	642	2,163	1 in 427	1 in 126

Year 1880.

NAME OF RAILWAY. 1.	Computed Number of Persons Employed on 31st December.* 2.	Number of Persons Killed. 3.	Number of Persons Injured. 4.	Proportion of Killed to Employed. 5.	Proportion of Injured to Employed. 6.
Great Eastern	12,251	27	135	1 in 453	1 in 90
Great Northern	13,989	33	99	1 in 423	1 in 141
Lancashire and Yorkshire	15,790	54	276	1 in 292	1 in 57
North Eastern	25,011	23	146	1 in 1,087	1 in 171
London and North Western	41,512	83	323	1 in 500	1 in 128
Midland	30,494	53	149	1 in 575	1 in 204
Great Western	26,829	47	272	1 in 570	1 in 98
London and South Western	10,652	18	82	1 in 591	1 in 129
South Eastern	6,922	14	19	1 in 494	1 in 364
London, Brighton, and South Coast	6,965	14	51	1 in 497	1 in 136
Caledonian	12,666	41	118	1 in 308	1 in 107
North British	10,775	28	200	1 in 384	1 in 53
Highland	1,405	1	2	1 in 1,405	1 in 702
Total for United Kingdon	274,535	546	2,080	1 in 502	1 in 131

Year 1881.

NAME OF RAILWAY.	Computed Number of Persons Employed on 31st December.*	Number of Persons Killed.	Number of Persons Injured.	Proportion of Killed to Employed.	Proportion of Injured to Employed.
1.	2.	3.	4.	5.	6.
Great Eastern	12,251	31	134	1 in 395	1 in 91
Great Northern	13,989	31	118	1 in 451	1 in 118
Lancashire and Yorkshire	15,790	42	290	1 in 375	1 in 54
North Eastern	25,011	38	150	1 in 658	1 in 166
London and North Western	41,512	79	597	1 in 525	1 in 69
Midland	30,494	51	72	1 in 597	1 in 423
Great Western	26,829	44	328	1 in 609	1 in 81
London and South Western	10,652	21	88	1 in 507	1 in 121
South Eastern	6,922	13	26	1 in 532	1 in 266
London, Brighton, and South Coast	6,965	19	62	1 in 366	1 in 112
Caledonian	12,666	22	147	1 in 575	1 in 86
North British	10,775	36	177	1 in 299	1 in 60
Highland	1,405	1	2	1 in 1,405	1 in 702
TOTAL FOR UNITED KINGDOM	274,535	521	2,446	1 in 526	1 in 112

Year 1882.

NAME OF RAILWAY.	Computed Number of Persons Employed on 31st December.*	Number of Persons Killed.	Number of Persons Injured.	Proportion of Killed to Employed.	Proportion of Injured to Employed.
1.	2.	3.	4.	5.	6.
Great Eastern	12,251	31	135	1 in 395	1 in 90
Great Northern	13,989	25	156	1 in 559	1 in 89
Lancashire and Yorkshire	15,790	41	297	1 in 385	1 in 53
North Eastern	25,011	31	195	1 in 806	1 in 128
London and North Western	41,512	82	591	1 in 506	1 in 70
Midland	30,494	52	93	1 in 586	1 in 327
Great Western	26,829	37	326	1 in 725	1 in 82
London and South Western	10,652	25	110	1 in 426	1 in 96
South Eastern	6,922	17	27	1 in 407	1 in 256
London, Brighton, and South Coast	6,965	17	77	1 in 409	1 in 90
Caledonian	12,666	35	111	1 in 361	1 in 114
North British	10,775	32	187	1 in 336	1 in 57
Highland	1,405	3	2	1 in 468	1 in 702
TOTAL FOR UNITED KINGDOM	274,535	553	2,576	1 in 496	1 in 106

Year 1883.

NAME OF RAILWAY.	Computed Number of Persons Employed on 31st December.*	Number of Persons Killed.	Number of Persons Injured.	Proportion of Killed to Employed.	Proportion of Injured to Employed.
1.	2.	3.	4.	5.	6.
Great Eastern	20,003	27	147	1 in 740	1 in 136
Great Northern	20,387	22	203	1 in 926	1 in 100
Lancashire and Yorkshire	20,926	34	251	1 in 615	1 in 83
North Eastern	33,284	43	217	1 in 774	1 in 153
London and North Western	55,061	66	442	1 in 834	1 in 124
Midland	43,699	50	139	1 in 873	1 in 314
Great Western	39,547	62	292	1 in 637	1 in 135
London and South Western	15,371	31	85	1 in 495	1 in 180
South Eastern	8,896	13	14	1 in 684	1 in 635
London, Brighton, and South Coast	9,827	12	58	1 in 818	1 in 169
Caledonian	14,140	47	135	1 in 300	1 in 104
North British	13,896	31	202	1 in 448	1 in 68
Highland	1,835	2	5	1 in 917	1 in 367
TOTAL FOR UNITED KINGDOM	367,793	554	2,460	1 in 663	1 in 149

Year 1884.

NAME OF RAILWAY.	Computed Number of Persons Employed on 31st December.*	Number of Persons Killed.	Number of Persons Injured.	Proportion of Killed to Employed.	Proportion of Injured to Employed.
1.	2.	3.	4.	5.	6.
Great Eastern	20,003	28	106	1 in 714	1 in 188
Great Northern	20,387	27	193	1 in 755	1 in 105
Lancashire and Yorkshire	20,926	51	284	1 in 410	1 in 73
North Eastern	33,284	29	188	1 in 1,147	1 in 177
London and North Western	55,061	79	433	1 in 696	1 in 127
Midland	43,699	46	121	1 in 949	1 in 361
Great Western	39,547	34	306	1 in 1,163	1 in 129
London and South Western	15,371	33	60	1 in 465	1 in 256
South Eastern	8,896	19	20	1 in 468	1 in 444
London, Brighton, and South Coast	9,827	14	70	1 in 701	1 in 140
Caledonian	14,140	33	78	1 in 428	1 in 181
North British	13,896	35	166	1 in 397	1 in 83
Highland	1,835	3	1	1 in 611	1 in 1,835
TOTAL FOR UNITED KINGDOM	367,793	546	2,319	1 in 673	1 in 158

Year 1885.

NAME OF RAILWAY.	Computed Number of Persons Employed on 31st December.*	Number of Persons Killed.	Number of Persons Injured.	Proportion of Killed to Employed.	Proportion of Injured to Employed.
1.	2.	3.	4.	5.	6.
Great Eastern	20,003	18	84	1 in 1,111	1 in 238
Great Northern	20,387	24	183	1 in 849	1 in 111
Lancashire and Yorkshire	20,926	31	304	1 in 675	1 in 68
North Eastern	33,284	21	170	1 in 1,584	1 in 195
London and North Western	55,061	55	398	1 in 1,001	1 in 138
Midland	43,699	45	76	1 in 971	1 in 574
Great Western	39,547	38	278	1 in 1,040	1 in 142
London and South Western	15,371	33	117	1 in 465	1 in 131
South Eastern	8,896	16	24	1 in 556	1 in 370
London, Brighton, and South Coast	9,827	13	42	1 in 755	1 in 233
Caledonian	14,140	30	43	1 in 471	1 in 328
North British	13,896	27	147	1 in 514	1 in 94
Highland	1,835	3	1	1 in 611	1 in 1,835
TOTAL FOR UNITED KINGDOM	367,793	451	2,117	1 in 815	1 in 173

Year 1886.

NAME OF RAILWAY.	Computed Number of Persons Employed on 31st December.*	Number of Persons Killed.	Number of Persons Injured.	Proportion of Killed to Employed.	Proportion of Injured to Employed.
1.	2.	3.	4.	5.	6.
Great Eastern	20,003	17	80	1 in 1,176	1 in 250
Great Northern	20,387	15	192	1 in 1,359	1 in 106
Lancashire and Yorkshire	20,926	38	318	1 in 550	1 in 65
North Eastern	33,284	30	178	1 in 1,109	1 in 186
London and North Western	55,061	56	353	1 in 983	1 in 155
Midland	43,699	46	72	1 in 949	1 in 606
Great Western	39,547	26	244	1 in 1,521	1 in 162
London and South Western	15,371	24	131	1 in 640	1 in 117
South Eastern	8,896	13	19	1 in 684	1 in 468
London, Brighton, and South Coast	9,827	8	20	1 in 1,228	1 in 491
Caledonian	14,140	31	42	1 in 456	1 in 336
North British	13,896	21	93	1 in 661	1 in 149
Highland	1,835	2	6	1 in 917	1 in 305
TOTAL FOR UNITED KINGDOM	367,793	425	2,010	1 in 865	1 in 182

Year 1887.

NAME OF RAILWAY.	Computed Number of Persons Employed on 31st December.*	Number of Persons Killed.	Number of Persons Injured.	Proportion of Killed to Employed.	Proportion of Injured to Employed.
1.	2.	3.	4.	5.	6.
Great Eastern	20,003	28	86	1 in 714	1 in 232
Great Northern	20,387	18	125	1 in 1,132	1 in 163
Lancashire and Yorkshire	20,926	35	294	1 in 597	1 in 71
North Eastern	33,284	21	167	1 in 1,584	1 in 199
London and North Western	55,061	58	424	1 in 949	1 in 129
Midland	43,699	35	97	1 in 1,248	1 in 450
Great Western	39,547	33	268	1 in 1,198	1 in 147
London and South Western	15,371	20	146	1 in 768	1 in 105
South Eastern	8,896	8	21	1 in 1,112	1 in 423
London, Brighton, and South Coast	9,827	14	30	1 in 701	1 in 327
Caledonian	14,140	14	91	1 in 1,010	1 in 155
North British	13,896	16	59	1 in 868	1 in 235
Highland	1,835	5	3	1 in 367	1 in 611
Total for United Kingdom	367,793	422	2,075	1 in 871	1 in 177

Year 1888.

NAME OF RAILWAY.	Computed Number of Persons Employed on 31st December.*	Number of Persons Killed.	Number of Persons Injured.	Proportion of Killed to Employed.	Proportion of Injured to Employed.
1.	2.	3.	4.	5.	6.
Great Eastern	20,003	29	79	1 in 689	1 in 253
Great Northern	20,387	18	75	1 in 1,132	1 in 271
Lancashire and Yorkshire	20,926	30	311	1 in 697	1 in 67
North Eastern	33,284	25	250	1 in 1,331	1 in 133
London and North Western	55,061	52	547	1 in 1,058	1 in 100
Midland	43,699	36	85	1 in 1,213	1 in 514
Great Western	39,547	34	242	1 in 1,163	1 in 163
London and South Western	15,371	22	145	1 in 698	1 in 106
South Eastern	8,896	14	19	1 in 635	1 in 468
London, Brighton, and South Coast	9,827	6	35	1 in 1,637	1 in 280
Caledonian	14,140	25	79	1 in 565	1 in 178
North British	13,896	21	60	1 in 661	1 in 231
Highland	1,835	1	1	1 in 1,835	1 in 1,835
Total for United Kingdom	367,793	396	2,193	1 in 928	1 in 167

Year 1889.

NAME OF RAILWAY. 1.	Computed Number of Persons Employed on 31st December.* 2.	Number of Persons Killed. 3.	Number of Persons Injured. 4.	Proportion of Killed to Employed. 5.	Proportion of Injured to Employed. 6.
Great Eastern	21,083	15	131	1 in 1,405	1 in 160
Great Northern	22,578	28	72	1 in 806	1 in 313
Lancashire and Yorkshire	25,592	32	255	1 in 799	1 in 100
North Eastern	33,072	20	285	1 in 1,653	1 in 116
London and North Western	58,607	64	825	1 in 915	1 in 71
Midland	45,055	44	144	1 in 1,023	1 in 312
Great Western	45,164	38	324	1 in 1,188	1 in 139
London and South Western	15,386	18	166	1 in 854	1 in 92
South Eastern	8,958	17	21	1 in 526	1 in 426
London, Brighton, and South Coast	10,170	11	29	1 in 924	1 in 350
Caledonian	11,494	30	135	1 in 383	1 in 85
North British	15,042	25	44	1 in 601	1 in 341
Highland	1,898	6	1	1 in 316	1 in 1,898
TOTAL FOR UNITED KINGDOM	381,626	435	2,769	1 in 877	1 in 137

Year 1890.

NAME OF RAILWAY. 1.	Computed Number of Persons Employed on 31st December.* 2.	Number of Persons Killed. 3.	Number of Persons Injured. 4.	Proportion of Killed to Employed. 5.	Proportion of Injured to Employed. 6.
Great Eastern	21,083	31	143	1 in 680	1 in 147
Great Northern	22,578	31	58	1 in. 728	1 in 389
Lancashire and Yorkshire	25,592	41	379	1 in. 624	1 in 67
North Eastern	33,072	17	289	1 in 1,945	1 in 114
London and North Western	58,607	74	925	1 in. 791	1 in 63
Midland	45,055	51	143	1 in 883	1 in 315
Great Western	45,164	53	364	1 in. 852	1 in 124
London and South Western	15,386	16	186	1 in. 961	1 in 82
South Eastern	8,958	9	15	1 in 995	1 in 597
London, Brighton, and South Coast	10,170	12	21	1 in. 847	1 in 484
Caledonian	11,494	36	161	1 in 319	1 in 71
North British	15,042	34	83	1 in. 442	1 in 181
Highland	1,898	4	2	1 in. 474	1 in 949
TOTAL FOR UNITED KINGDOM	381,626	499	3,122	1 in 764	1 in 122

Year 1891.

NAME OF RAILWAY.	Computed Number of Persons employed on 31st December.*	Number of Persons Killed.	Number of Persons Injured.	Proportion of Killed to Employed.	Proportion of Injured to Employed.
1.	2.	3.	4.	5.	6.
Great Eastern	21,083	33	111	1 in 638	1 in 189
Great Northern	22,578	36	79	1 in 627	1 in 285
Lancashire and Yorkshire	25,592	30	417	1 in 853	1 in 61
North Eastern	33,072	29	316	1 in 1,140	1 in 104
London and North Western	58,607	53	922	1 in 1,105	1 in 63
Midland	45,055	60	94	1 in 750	1 in 479
Great Western	45,164	50	387	1 in 903	1 in 116
London and South Western	15,386	27	109	1 in 569	1 in 141
South Eastern	8,958	21	17	1 in 426	1 in 526
London, Brighton, and South Coast	10,170	16	37	1 in 635	1 in 274
Caledonian	11,494	45	127	1 in 255	1 in 90
North British	15,042	30	128	1 in 501	1 in 117
Highland	1,898	3	1	1 in 632	1 in 1,898
Total for United Kingdom	381,626	549	3,161	1 in 695	1 in 120

Year 1892.

NAME OF RAILWAY.	Computed Number of Persons employed on 31st December.*	Number of Persons Killed.	Number of Persons Injured.	Proportion of Killed to Employed.	Proportion of Injured to Employed.
1.	2.	3.	4.	5.	6.
Great Eastern	21,083	32	81	1 in 658	1 in 260
Great Northern	22,578	35	81	1 in 645	1 in 278
Lancashire and Yorkshire	25,592	35	427	1 in 731	1 in 59
North Eastern	33,072	29	341	1 in 1,140	1 in 96
London and North Western	58,607	67	762	1 in 874	1 in 76
Midland	45,055	52	124	1 in 866	1 in 363
Great Western	45,164	65	381	1 in 694	1 in 118
London and South Western	15,386	17	141	1 in 905	1 in 109
South Eastern	8,958	13	32	1 in 689	1 in 279
London, Brighton, and South Coast	10,170	9	26	1 in 1,130	1 in 391
Caledonian	11,494	39	119	1 in 294	1 in 96
North British	15,042	32	107	1 in 470	1 in 140
Highland	1,898	4	1	1 in 474	1 in 1,898
Total for United Kingdom	381,626	534	2,915	1 in 714	1 in 130

NOTES.

* I. The numbers of persons employed in the years, 1870, 1873, 1877, 1880, 1881 and 1882 are taken from a Return presented to the House of Lords in 1874, of the number of persons employed on the 31st December 1873 on each of the railways in the United Kingdom, H.L. (236), 1874. Those for the years 1883 to 1888 inclusive are taken from a similar Return presented to the House of Commons in 1884, for the 31st March 1883, H.C. 242, 1884. Those for the years 1889 to 1892 inclusive are taken from a Table compiled from information supplied to the Board of Trade by the Railway Companies for the purpose of a Return of the Home Office as to accidents (factories, railways, and mines), H.C. 402, 1890.

II. An analysis and comparison of the figures in the Returns of accidents appear to show that the Railway Companies do not report all minor accidents on an uniform basis, owing to a difference in their interpretation of the meaning of the provisions of the Regulation of Railways Act, 1871. In estimating, therefore, the reliability of the figures set out, and in comparing the proportion of accidents on the several lines, this difference must be borne in mind, in fairness to those Companies who habitually report every accident of whatever kind which occurs. Means are, however, under consideration for adoption, with a view to securing greater uniformity and accuracy in the Returns supplied.

III. It is also to be observed in explanation of the considerable difference between the numbers of persons killed and injured in the Table for the year 1870 and the figures in the succeeding tables, that prior to the passing of the Railway Regulation Act, 1871, the Companies did not make such full Returns of accidents of this class.

RAILWAY COMPANIES (INJURIES TO SERVANTS).

RETURN showing the Number of SERVANTS reported to the BOARD OF TRADE by the following RAILWAY COMPANIES as having been Killed and Injured by Accidents in which the Movement of Vehicles was concerned during the Years, 1870, 1873, 1877, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, 1889, 1890, 1891, and 1892; &c.

(*Mr. John Ellis.*)

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13 *February* 1894.

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RAILWAYS

(SIGNAL ARRANGEMENTS AND SYSTEMS OF WORKING).

RETURN

(*In pursuance of "The Railway Regulation Act (Return of Signal Arrangement Working, &c.), 1873,"*)

BY

RAILWAY COMPANIES IN THE UNITED KINGDOM

RELATIVE TO

(1.) The Interlocking and Concentrating of Signal and Point Levers, &c.,

AND TO

(2.) The System or Systems upon which the Lines of Railway under their Control were Worked,

On 31st December 1892.

Presented to both Houses of Parliament by Command of Her Majesty.

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Board of Trade,
September 1893.

COURTENAY BOYLE.

RETURNS by RAILWAY COMPANIES in the UNITED KINGDOM with respect to CONNECTIONS on the LINES of RAILWAY under their Control, viz.—1. The Number of Cases in which any Passenger Line is connected with or crossed on the Level by—(*a.*) Any other Passenger Line; (*b.*) Any Goods Line; (*c.*) Any Siding; (*d.*) Any Cross-over Road:—2. The Number of Cases in which such Connections or Crossings have been perfected, so as to comply with the Requirements which the Board of Trade Inspecting Officers are now in the habit of making, in the case of New Lines, with respect to the following Matters:—(*a.*) Concentration of Signal and Point Levers; (*b.*) Interlocking of those Levers; (*c.*) The addition of Safety Points for Goods Lines and Sidings.

NAME OF RAILWAY.	Number of Cases in which any Passenger Line is connected with or crossed on the Level by				Number of Cases in which the usual Requirements of the Inspecting Officers of the Board of Trade have or have not been complied with in the following respects:					
					Concentration of Signal and Point Levers.		Interlocking of Signal and Point Levers.		Addition of Safety Points in case of Goods Lines and Sidings.	
	Any other Passenger Line.	Any Goods Line.	Any Siding.	Any Cross-over Road.	Have.	Have not.	Have.	Have not.	Have.	Have not.
	a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*k*	*l*
ENGLAND AND WALES.										
BARRY:										
Main Line	—	4	5	3	12	—	12	—	9	—
Branch	1	2	5	7	15	—	15	—	7	—
Total	1	6	10	10	27	—	27	—	16	—
BRECON AND MERTHYR:										
Main Line	34	7	59	18	101	17	101	17	66	—
Branches	11	6	33	3	40	13	40	13	39	—
Total	45	13	92	21	141	30	141	30	105	—
CAMBRIAN:										
Main Line	98	3	201	30	281	51	281	51	156	48
Branches	1	—	26	—	13	14	13	14	15	11
Total	99	3	227	30	294	65	294	65	171	59
CHARNWOOD FOREST	2	1	7	—	10	—	10	—	8	—
CHESHIRE LINES	43	18	210	67	338	—	338	—	225	3*
CLEATOR AND WORKINGTON JUNCTION:										
Main Line	10	7	24	13	53	1	53	1	31	—
Branches	7	—	7	—	14	—	14	—	7	—
Total	17	7	31	13	67	1	67	1	38	—
COCKERMOUTH, KESWICK, AND PENRITH.	14	1	17	3	29	6	35	—	17	1†
COLNE VALLEY AND HALSTEAD	2	13	1	3	15	4	15	4	13	1
CORRIS	—	3	8	—	11	—	11	—	11	—
EAST AND WEST JUNCTION	31	—	22	2	55	—	55	—	22	—
EASTERN AND MIDLANDS:										
Main Line	31	3	40	3	76	1	76	1	43	—
Branches	11	1	17	—	27	2	27	2	18	—
Total	42	4	57	3	103	3	103	3	61	—
FESTINIOG	—	1	27	3	27	4	27	4	9	19
FURNESS:										
Main Line	21	3	131	67	218	4	218	4	133	1
Branches	5	2	37	10	42	12	42	12	33	6
Total	26	5	168	77	260	16	260	16	166	7
GREAT EASTERN:										
Main Lines	175	22	537	225	940	19	940	19	541	18
Branches	348	37	937	263	1,561	24	1,561	24	953	21
Total	523	59	1,474	488	2,501	43	2,501	43	1,494	39
GREAT NORTHERN:										
Main Lines	156	148	413	261	978	—	978	—	561	—
Branches	102	32	400	179	686	27	686	27	432	—
Joint Lines	29	7	130	89	255	—	255	—	137	—
Total	287	187	943	529	1,919	27	1,919	27	1,130	—

* Passenger sidings, 2 of which are provided with interlocked scotches.
† Turntable siding protected by scotch block worked from cabin.

Name of Railway.	Number of Cases in which any Passenger Line is connected with or crossed on the Level by				Number of Cases in which the usual Requirements of the Inspecting Officers of the Board of Trade have or have not been complied with in the following respects:					
	Any other Passenger Line.	Any Goods Line.	Any Siding.	Any Cross-over Road.	Concentration of Signal and Point Levers.		Interlocking of Signal and Point Levers.		Addition of Safety Points in case of Goods Lines and Sidings.	
					Have.	Havenot.	Have.	Havenot.	Have.	Havenot.
ENGLAND AND WALES—*continued.*	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*k*	*l*
GREAT NORTHERN AND GREAT EASTERN JOINT:										
Main Line	2	1	46	16	65	—	65	—	47	—
Branches	4	—	25	7	36	—	36	—	25	—
Total	6	1	71	23	101	—	101	—	72	—
GREAT NORTHERN AND LONDON AND NORTH-WESTERN.										
Nottingham Joint Lines.										
Main Line	8	—	41	6	55	—	55	—	41	—
Branch (included in Great Northern Return).										
GREAT WESTERN:										
Main Line	354	111	1,703	612	2,670	110	2,715	65	1,745	69
Branches	436	94	1,325	231	1,884	202	1,944	142	1,293	126
Total	790	205	3,028	843	4,554	312	4,659	207	3,038	195
HAMMERSMITH AND CITY	3	1	4	8	16	—	16	—	5	—
HULL, BARNSLEY, AND WEST RIDING JUNCTION RAILWAY AND DOCK:										
Main Line	4	7	60	31	102	—	102	—	64	3
Branches	1	—	9	4	14	—	14	—	9	—
Total	5	7	69	35	116	—	116	—	73	3
ISLE OF WIGHT	—	—	22	5	20	7	22	5	22	—
ISLE OF WIGHT CENTRAL:										
Main Line	4	2	12	4	15	7*	15	7*	14	—
Branches	1	—	5	4	10	—	10	—	5	—
Total	5	2	17	8	25	7	25	7	19	—
LANCASHIRE AND YORKSHIRE	347	254	1,070	659	2,330	—	2,330	—	1,321	3†
LANCASHIRE AND YORKSHIRE AND LONDON AND NORTH-WESTERN JOINT LINES:										
Maudlands Junction to Fleetwoood	16	4	30	30	80	—	80	—	34	—
Kirkham to Lytham and Blackpool	9	6	13	12	40	—	40	—	19	—
Poulton to Blackpool	19	5	8	3	35	—	35	—	12	1‡
Cherry Tree to Chorley	—	—	16	7	23	—	23	—	16	—
Total	44	15	67	52	178	—	178	—	81	1
LISKEARD AND CARADON	—	1	1	—	1	1	1	1	1	1
LONDON AND NORTH-WESTERN:										
Main Lines	352	189	1,233	505	2,279	—	2,279	—	1,422	—
Branches	254	145	1,279	381	2,054	5	2,054	5	1,418	6
Joint Lines, &c.	21	15	107	36	179	—	179	—	122	—
Total	627	349	2,619	922	4,512	5	4,512	5	2,962	6
LONDON AND NORTH-WESTERN AND GREAT WESTERN JOINT:										
Main Lines	85	18	184	109	396	—	396	—	202	—
Branches	14	1	46	8	68	1	68	1	47	—
Vale of Towy	6	—	20	3	29	—	29	—	20	—
Total	105	19	250	120	493	1	493	1	269	—

* Fitted with Annett's patent lock and key, affixed to train staff.
† 2 of these are protected by scotch blocks.
‡ One siding governed by patent stop-block.

Name of Railway.	Number of Cases in which any Passenger Line is connected with or crossed on the Level by				Number of Cases in which the usual Requirements of the Inspecting Officers of the Board of Trade have or have not been complied with in the following respects:					
	Any other Passenger Line.	Any Goods Line.	Any Siding.	Any Cross-over Road.	Concentration of Signal and Point Levers.		Interlocking of Signal and Point Levers.		Addition of Safety Points in case of Goods Lines and Sidings.	
					Have.	Have not.	Have.	Have not.	Have.	Have not.
ENGLAND AND WALES—*continued.*	*b*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*k*	*l*
LONDON AND SOUTH-WESTERN	245	22	908	511	1,686	—	1,686	—	911	19
LONDON, BRIGHTON, AND SOUTH COAST.	103	—	624	298	1,025	—	1,025	—	593	31
LONDON, CHATHAM, AND DOVER	53	2	246	179	479	1*	480	—	241	7†
LONDONDERRY	1	—	2	4	7	—	7	—	2	—
LONDON, TILBURY, & SOUTHEND:										
Main Line	15	—	67	49	129	2‡	131	—	62	5
Branches	7	—	9	3	18	1‡	19	—	8	1
Total	22	—	76	52	147	3	150	—	70	6
MACCLESFIELD COMMITTEE	2	—	8	10	20	—	20	—	8	—
MANCHESTER AND MILFORD	—	2	12	1	2	13	2	13	2	12
MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE:										
Main Line	42	36	314	173	565	—	565	—	350	—
Branches	26	19	236	137	414	4	414	4	255	—
Total	68	55	550	310	979	4	979	4	605	—
MANCHESTER, SOUTH JUNCTION, AND ALTRINCHAM.	13	4	23	18	58	—	58	—	27	—
MARYPORT AND CARLISLE:										
Main Line	3	6	45	21	75	—	75	—	51	—
Branches	7	2	24	—	33	—	33	—	26	—
Total	10	8	69	21	108	—	108	—	77	—
MERSEY:										
Main Line	2	—	6	10	18	—	18	—	6	—
Branches	2	—	3	2	7	—	7	—	3	—
Total	4	—	9	12	25	—	25	—	9	—
METROPOLITAN:										
Main Line	16	—	61	57	134	—	134	—	61	—
Branches	7	1	17	20	45	—	45	—	17	1
Total	23	1	78	77	179	—	179	—	78	1
METROPOLITAN DISTRICT	45	2	45	51	143	—	143	—	27	20
MIDLAND:										
Main Lines	173	196	1,001	234	1,604	—	1,604	—	1,197	—
Branch Lines	183	57	989	143	1,366	6	1,366	6	1,040	6
Lines worked	12	—	41	8	61	—	61	—	41	—
Joint Lines	49	4	138	22	213	—	213	—	142	—
Total	417	257	2,169	407	3,244	6	3,244	6	2,420	6
MIDLAND AND SOUTH-WESTERN JUNCTION.	7	—	31	17	55	—	55	—	30	1
NEATH AND BRECON	12	9	40	3	37	27	39	25	43	6
NORTHAMPTON AND BANBURY	8	1§	13	—	20	2	20	2	12	2
NORTH AND SOUTH-WESTERN JUNCTION.	5	3	12	9	28	1‖	29	—	15	—
NORTH-EASTERN	397	265	1,934	843	3,439	—	3,439	—	2,196	3
NORTH LONDON	16	13	41	67	130	7¶	137	—	54	—

* The points of this cross-over road are fastened by padlocks, the keys of which are kept in the signal-box.
† Sidings where safety points cannot be fixed; each is provided with a scotch interlocked and worked from signal-box.
‡ Controlled by Annett's key from preceding station.
§ Two small stations and one goods line, which is seldom used, are wire-locked only.
‖ Fork-locked and controlled from the nearest signal station.
¶ In 5 of these cases fork-locks are provided, worked from the nearest signal station. In the other 2 cases the points are locked by Annett's key.

Name of Railway.	Number of Cases in which any Passenger Line is connected with or crossed on the Level by				Number of Cases in which the usual Requirements of the Inspecting Officers of the Board of Trade have or have not been complied with in the following respects:					
	Any other Passenger Line.	Any Goods Line.	Any Siding.	Any Cross-over Road.	Concentration of Signal and Point Levers.		Interlocking of Signal and Point Levers.		Addition of Safety Points in case of Goods Lines and Sidings.	
					Have.	Have not.	Have.	Have not.	Have.	Have not.
ENGLAND AND WALES—*continued.*										
	a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*k*	*l*
NORTH STAFFORDSHIRE:										
Main Line	19	20	79	46	164	—	164	—	98	1*
Branches	22	18	194	105	339	—	339	—	212	—
Total	41	38	273	151	503	—	503	—	310	1
NORTH WALES (NARROW GAUGE):										
Main Line	1	2	9	1	13	—	13	—	11	—
Branch	—	1	5	—	6	—	6	—	6	—
Total	1	3	14	1	19	—	19	—	17	—
OLDHAM, ASHTON, AND GUIDE BRIDGE JUNCTION.	3	1	19	15	38	—	38	—	20	—
PEMBROKE AND TENBY	19	2	19	3	—	43	—	43	8	13
PONTYPRIDD, CAERPHILLY, AND NEWPORT.	2	—	4	1	7	—	7	—	4	—
RAVENGLASS AND ESKDALE	—	—	8	—	—	8	—	8	—	8
RHONDDA AND SWANSEA BAY	16	7	24	3	50	—	50	—	31	—
RUYMNEY	21	12	95	58	184	2	184	2	107	—
SEVERN AND WYE AND SEVERN BRIDGE:										
Main Line	14	12	33	6	54	11	61	4	44	1
Branch	—	1	6	—	7	—	7	—	7	—
Total	14	13	39	6	61	11	68	4	51	1
SHEFFIELD AND MIDLAND	2	—	25	16	43	—	43	—	25	—
SOUTH-EASTERN:										
Main Line	25	1	120	144	284	6	285	5	84	37
Branches	35	2	409	218	495	169	495	169	324	87
Total	60	3	529	362	779	175	780	174	408	124
SOUTH-WESTERN AND MIDLAND RAILWAY COMPANIES (SOMERSET AND DORSET JOINT LINE).	65	2	64	32	163	—	163	—	66	—
SOUTHWOLD	—	—	9	—	—	9	9	—	9	—
TAFF VALE:										
Main Line	10	19	34	43	106	—	106	—	53	—
Branch	18	16	151	90	275	—	275	—	167	—
Total	28	35	185	133	381	—	381	—	220	—
TALYLLYN	—	—	1	—	1	—	1	—	1	—
WEST LANCASHIRE	6	2	28	28	64	—	64	—	30	—
WEST LONDON EXTENSION	6	1	8	7	22	—	22	—	8	1
WEST SOMERSET MINERAL	—	—	6	—	—	6	—	6	—	6
WIRRAL	30	4	42	10	86	—	86	—	46	—
WREXHAM, MOLD, AND CONNAH'S QUAY:										
Main Line	3	2	29	18	52	—	52	—	31	—
Branch	9	3	12	—	24	—	24	—	15	—
Total	12	5	41	18	76	—	76	—	46	—

* This is a crossing at right angles, and has blocks worked from the box and interlocked.

Name of Railway.	Number of Cases in which any Passenger Line is connected with or crossed on the Level by				Number of Cases in which the usual Requirements of the Inspecting Officers of the Board of Trade have or have not been complied with in the following respects:					
					Concentration of Signal and Point Levers.		Interlocking of Signal and Point Levers.		Addition of Safety Points in case of Goods Lines and Sidings.	
	Any other Passenger Line.	Any Goods Line.	Any Siding.	Any Cross-over Road.	Have.	Have not.	Have.	Have not.	Have.	Have not.
	a	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*k*	*l*
SCOTLAND.										
CALEDONIAN:										
Main Line	33	13	197	91	334	—	334	—	210	—
Branches	232	59	934	393	1,607	11*	1,607	11*	992	1*
Total	265	72	1,131	484	1,941	11	1,941	11	1,202	1
CITY OF GLASGOW UNION	8	6	15	20	49	—	49	—	20	1
DUNDEE AND ARBROATH JOINT	3	3	39	23	64	4†	64	4†	40	2†
GLASGOW AND KILMARNOCK JOINT:										
Main Line	5	2	30	25	62	—	62	—	32	—
Branch	1	—	4	3	8	—	8	—	4	—
Total	6	2	34	28	70	—	70	—	36	—
GLASGOW AND PAISLEY JOINT:										
Main Line	7	10	13	29	59	—	59	—	23	—
Branch	1	1	4	3	9	—	9	—	5	—
Total	8	11	17	32	68	—	68	—	28	—
GLASGOW AND SOUTH-WESTERN	138	30	402	183	743	10	743	10	422	10
GREAT NORTH OF SCOTLAND:										
Main Line	57	5	83	23	138	30	138	30	70	18
Branches	55	—	122	7	102	82	102	82	49	73
Total	112	5	205	30	240	112	240	112	119	91
GREENOCK AND WEMYSS BAY	1	1	14	3	18	1	16	3	12	3
HIGHLAND:										
Main Line	190	12	182	21	377	28	377	28	151	43
Branches	25	1	43	1	48	22	45	25	22	22
Total	215	13	225	22	425	50	422	53	173	65
NORTH BRITISH:										
Main Line	131	55	670	271	1,030	97	1,029	98	671	54
Branches	49	59	596	126	692	138	691	139	605	50
Total	180	114	1,266	397	1,722	235	1,720	237	1,276	104
PORTPATRICK AND WIGTOWNSHIRE:										
Main Line	28	—	24	3	55	—	55	—	24	—
Branches	6	—	22	—	24	4	24	4	14	8
Total	34	—	46	3	79	4	79	4	38	8

* A new station is being erected at Crieff, and considerable alterations are in progress at Denny, which is the cause of these not being completed.

† These are at Dundee East Station, where a new signal-box is in course of completion.

Name of Railway.	Number of Cases in which any Passenger Line is connected with or crossed on the Level by				Number of Cases in which the usual Requirements of the Inspecting Officers of the Board of Trade have or have not been complied with in the following respects:					
	Any other Passenger Line.	Any Goods Line.	Any Siding.	Any Cross-over Road.	Concentration of Signal and Point Levers.		Interlocking of Signal and Point Levers.		Addition of Safety Points in case of Goods Lines and Sidings.	
					Have.	Have not.	Have.	Have not.	Have.	Have not.
IRELAND.	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*k*	*l*
BALLYCASTLE	—	1	8	—	9	—	9	—	9	—
BELFAST AND COUNTY DOWN:										
Main Line	18	2	35	13	57	11	65	3	36	1
Branches	14	1	28	—	37	6	40	3	25	4
Total	32	3	63	13	94	17	105	6	61	5
BELFAST AND NORTHERN COUNTIES:										
Main Line	29	4	66	20	108	11	113	6	66	4
Branches	23	11	90	5	114	15	126	3	92	9
Total	52	15	156	25	222	26	239	9	158	13
CAVAN, LEITRIM AND ROSCOMMON LIGHT.	10	—	20	1	31	—	31	—	20	—
CLOGHER VALLEY	8	7	6	—	21	—	21	—	10	3*
CORK AND MACROOM DIRECT	—	—	1	—	1	—	1	—	1	—
CORK AND MUSKERRY	5	—	12	—	12	5	10	7	9	3
CORK, BANDON, AND SOUTH COAST:										
Main Line	20	1	26	1	28	20	28	20	18	9
Branches	16	—	16	—	23	9	22	10	7	9
Total	36	1	42	1	51	29	50	30	25	18
CORK, BLACKROCK, AND PASSAGE	3	—	6	1	5	5	4	6	5	1
DONEGAL	—	—	8	1	9	—	9	—	8	—
DUBLIN, WICKLOW, AND WEXFORD:										
Main Line	49	28	31	9						
Branches	5	14	4	4	134	10	132	12	64	13
Total	54	42	35	13						
GREAT NORTHERN (IRELAND):										
Main Line	83	4	186	46	319	—	319	—	190	—
Branches	26	1	90	9	108	18	108	18	78	13
Total	109	5	276	55	427	18	427	18	268	13
GREAT SOUTHERN AND WESTERN:										
Main Line	20	5	120	60	205	—	205	—	124	1
Branches	34	1	97	12	131	13	131	13	82	16
Total	54	6	217	72	336	13	336	13	206	17
LONDON AND NORTH-WESTERN:										
Dundalk, Newry, and Greenore	1	—	12	—	13	—	13	—	12	—
North Wall Extension	1	3	6	2	12	—	12	—	9	—
Total	2	3	18	2	25	—	25	—	21	—

* In these cases the arrangement of Annett's Lock opened by train staff without a safety siding was passed by the Board of Trade Inspector in 1887.

Name of Railway.	Number of Cases in which any Passenger Line is connected with or crossed on the Level by				Number of Cases in which the usual Requirements of the Inspecting Officers of the Board of Trade have or have not been complied with in the following respects:					
	Any other Passenger Line.	Any Goods Line.	Any Siding.	Any Cross-over Road.	Concentration of Signal and Point Levers.		Interlocking of Signal and Point Levers.		Addition of Safety Points in case of Goods Lines and Sidings.	
					Have.	Have not.	Have.	Have not.	Have.	Have not.
IRELAND—*continued.*	*a*	*b*	*c*	*d*	*e*	*f*	*g*	*h*	*k*	*l*
LONDONDERRY AND LOUGH SWILLY:										
Main Line	—	—	6	—	6	—	6	—	6	—
Branch	—	—	6	—	3	3	3	3	3	3
Total	—	—	12	—	9	3	9	3	9	3
MIDLAND GREAT WESTERN:	72	1	255	55	357	26	372	11	251	5
SLIGO, LEITRIM, AND NORTHERN COUNTIES.	—	3	11	4	18	—	18	—	14	—
WATERFORD AND CENTRAL IRELAND.	6	—	31	1	8	30	8	30	5	26
WATERFORD AND LIMERICK:										
Main Line	23	2	42	12	76	3	76	3	44	—
Branches	21	—	75	4	44	56	41	59	36	39
Total	44	2	117	16	120	59	117	62	80	39
WATERFORD AND TRAMORE	—	—	2	—	—	2	—	2	—	2
WATERFORD, DUNGARVAN, AND LISMORE.	9	—	18	1	27	1	27	1	16	2
WEST CLARE	—	1	13	—	8	6	8	6	6	8

SUMMARY.

	Number of Cases in which any Passenger Line is connected with or crossed on the Level by				Number of Cases in which the usual Requirements of the Inspecting Officers of the Board of Trade have or have not been complied with in the following respects:—					
	Any other Passenger Line.	Any Goods Line.	Any Siding.	Any Cross-over Road.	Concentration of Signal and Point Levers.		Interlocking of Signal and Point Levers.		Addition of Safety Points in case of Goods Lines and Sidings.	
					Have.	Have not.	Have.	Have not.	Have.	Have not.
ENGLAND AND WALES	4,849	1,947	18,876	7,664	32,486	850	32,630	706	20,217	606
SCOTLAND	970	257	3,394	1,225	5,419	427	5,412	434	3,366	285
IRELAND	496	90	1,327	261	1,924	250	1,958	216	1,246	171
Total United Kingdom	6,315	2,294	23,597	9,150	39,829	1,527	40,000	1,356	24,829	1,062

COMPARATIVE STATEMENT showing the Number of Cases upon the RAILWAYS in the UNITED KINGDOM in which the SIGNAL and POINT LEVERS had or had not been Interlocked, and the Proportion per Cent. Interlocked for the Years 1891 and 1892 respectively.

NAME OF COMPANY.	1891.		1892.		Per-centage Interlocked.		Per-centage Increase in 1892 over 1891.
	Interlocked.	Not Interlocked.	Interlocked.	Not Interlocked.	1891.	1892.	
ENGLAND AND WALES.					Per cent.	Per cent.	Per cent.
BARRY	28	—	27	—	100	100	—
BRECON AND MERTHYR TYDFIL JUNCTION	122	44	141	30	73	83	10
CAMBRIAN	239	110	294	65	68	82	14
CHARNWOOD FOREST	10	—	10	—	} Cent.	Cent.	—
CHESHIRE LINES	319	—	338	—			
CLEATOR AND WORKINGTON	67	1	67	1	99	99	—
COCKERMOUTH, KESWICK, AND PENRITH	35	—	35	—	Cent.	Cent.	—
COLNE VALLEY AND HALSTEAD	15	4	15	4	79	79	—
CORRIS	11	—	11	—	} Cent.	Cent.	—
EAST AND WEST JUNCTION	51	—	55	—			
EASTERN AND MIDLANDS	104	3	103	3	97	97	—
FESTINIOG	27	4	27	4	87	87	—
FURNESS	256	22	260	16	92	94	2
GREAT EASTERN	2,379	129	2,501	43	95	98	3
*GREAT NORTHERN	1,863	44	1,919	27	98	99	1
GREAT NORTHERN AND GREAT EASTERN JOINT	206	—	101	—	100	100	—
GREAT NORTHERN AND LONDON AND NORTH-WESTERN JOINT LINES.	59	—	55	—	Cent.	Cent.	—
GREAT WESTERN	4,508	280	4,659	207	94	96	2
HAMMERSMITH AND CITY	15	—	16	—	100	100	—
HULL, BARNSLEY, AND WEST RIDING JUNCTION RAILWAY AND DOCK.	112	—	116	—	Cent.	Cent.	—
ISLE OF WIGHT	26	8	22	5	76	81·5	5·5
ISLE OF WIGHT CENTRAL	26	8	25	7	76	78	2
LANCASHIRE AND YORKSHIRE	2,282	—	2,330	—	} Cent.	Cent.	—
†LANCASHIRE AND YORKSHIRE AND LONDON AND NORTH-WESTERN JOINT LINES.	242	—	178	—			
LONDON AND NORTH-WESTERN	4,425	24	4,512	5	Cent.	Cent.	—
LONDON AND NORTH-WESTERN AND GREAT WESTERN JOINT.	477	4	493	1	99	100	1
LONDON AND SOUTH-WESTERN	1,668	—	1,686	5	Cent.	Cent.	—
LONDON, BRIGHTON, AND SOUTH COAST	1,018	—	1,025	—	} Cent.	Cent.	—
LONDON, CHATHAM, AND DOVER	462	—	480	—			
LONDONDERRY	7	—	7	—	Cent.	Cent.	—
LONDON, TILBURY, AND SOUTHEND	131	13	150	—	91	100	9
MACCLESFIELD COMMITTEE	21	—	20	—	Cent.	Cent.	—
MANCHESTER AND MILFORD	2	13	2	13	13	13	—
MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE	917	4	979	4	100	100	—
MANCHESTER, SOUTH JUNCTION, AND ALTRINCHAM.	58	—	58	—	100	Cent.	1
MARYPORT AND CARLISLE	108	—	108	—	100	100	—
MERSEY	21	—	25	—	} Cent.	Cent.	—
‡METROPOLITAN	156	—	179	—			
METROPOLITAN DISTRICT	143	—	143	—			
MIDLAND	3,168	66	3,244	6	98	100	2
MIDLAND AND SOUTH-WESTERN JUNCTION	55	—	55	—	Cent.	Cent.	—
NEATH AND BRECON (NEATH BRANCH)	40	23	39	25	63	61	—
NORTHAMPTON AND BANBURY JUNCTION	20	2	20	2	91	91	—
NORTH AND SOUTH-WESTERN JUNCTION	34	4	29	—	89	100	11
NORTH-EASTERN	3,427	1	3,439	—	Cent.	Cent.	—
NORTH LONDON	137	—	137	—	} Cent.	Cent.	—
NORTH STAFFORDSHIRE	498	—	503	—			
NORTH WALES NARROW GAUGE	15	—	19	—			
OLDHAM, ASHTON-UNDER-LYNE, AND GUIDE BRIDGE JUNCTION.	38	—	38	—			
PEMBROKE AND TENBY	—	43	—	43	Nil.	Nil.	—
PONTYPRIDD, CAERPHILLY, AND NEWPORT	7	—	7	—	100	100	—
RAVENGLASS AND ESKDALE	—	8	—	8	Nil.	Nil.	—
RHONDDA AND SWANSEA BAY	49	—	50	—	Cent.	Cent.	—

* Including the Methley and the West Riding and Grimsby Joint Railways.

† Including the North Union, Preston and Wyre, Preston and Longridge, and the Lancashire, and Yorkshire and Lancashire Union Joint Lines.

‡ Including the Metropolitan and Metropolitan District Joint Line.

Comparative Statement—*continued.*

Name of Company.	1891.		1892.		Per-centage Interlocked.		Per-centage Increase in 1892 over 1891.
	Interlocked.	Not Interlocked.	Interlocked.	Not Interlocked.	1891.	1892.	
ENGLAND AND WALES—*continued.*					Per cent.	Per cent.	Per cent.
Rhymney	167	14	184	2	92	99	7
Severn and Wye and Severn Bridge	66	4	68	4	94	94·5	·5
Sheffield and Midland	43	—	43	—	Cent.	Cent.	—
South-Eastern	695	251	780	174	73	82	9
South-Western and Midland	159	—	163	—			
Southwold	9	—	9	—			
Taff Vale	381	1	381	1	Cent.	Cent.	—
West Lancashire	63	—	64	—			
West London Extension	22	—	22	—			
West Somerset Mineral	—	6	—	6	Nil.	Nil.	—
Wrexham, Mold, and Connah's Quay	70	—	76	—	Cent.	Cent.	—
Total, England and Wales	31,781	1,139	32,630	706	97	98	1
SCOTLAND.							
Caledonian	1,772	72	1,941	11	96	99	3
City of Glasgow Union	49	—	49	—	100	100	—
Dundee and Arbroath Joint	64	4	64	4	94	94	—
Glasgow and Kilmarnock Joint Line	76	—	70	—	Cent.	Cent.	—
Glasgow and Paisley Joint Line	84	—	68	—			
Glasgow and South-western	714	23	743	10	97	99	2
Great North of Scotland	213	130	240	112	62	68	6
Greenock and Wemyss Bay	13	7	16	3	65	84	19
Highland	327	66	422	53	83	89	6
North British	1,600	354	1,720	237	82	88	6
Portpatrick and Wigtownshire	70	11	79	4	86	95	9
Total, Scotland	5,007	667	5,412	434	88	93	5
IRELAND.							
Ballycastle	9	—	9	—	Cent.	Cent.	—
Belfast and County Down	73	23	105	6	76	95	19
Belfast and Northern Counties	217	12	239	9	95	96	2
Cavan Leitrim and Roscommon Light	31	—	31	—	Cent.	Cent.	—
Cork, Bandon, and South Coast	42	39	50	30	52	62·5	10·5
Cork and Macroom Direct	1	—	1	—	Cent.	Cent.	—
Cork, Blackrock, and Passage	4	6	4	6	40	40	—
Dublin, Wicklow, and Wexford	94	40	132	12	70	92	22
Great Northern (Ireland)	125	348	427	18	26	96	70
Great Southern and Western	377	82	336	13	82	96	14
London and North-Western	25	—	25	—	Cent.	Cent.	—
Londonderry and Lough Swilly	9	3	9	3	75	75	—
Midland Great Western	346	20	372	11	94·5	97	2·5
Sligo, Leitrim, and Northern Counties	18	—	18	—	Cent.	Cent.	—
Waterford and Central Ireland	8	30	8	30	21	21	—
Waterford and Limerick	73	112	117	62	39	65	26
Waterford and Tramore	—	2	—	2	Nil.	Nil.	—
Waterford, Dungarvan, and Lismore	27	1	27	1	96	96	—
West Clare	8	6	8	6	57	57	—
Total, Ireland	1,535	728	1,958	216	68	90	22
Total, United Kingdom	38,323	2,534	40,000	1,356	94	7	3

RETURN, in compliance with the RAILWAY REGULATION ACT, 1873, showing the Systems were Worked on the

RAILWAY COMPANY.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under								
			WORKED BY TELEGRAPH								
			On the Absolute Block System.						On the Permissive Block System.		
					Distance of Single Line.						
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES.											
BARRY	m. ch. 5 57	m. ch. —	Cogan	Barry Dock	m. ch. 5 57	m. ch. —	m. ch. —	m. ch. —			m. ch. —
					5 57	—					
BISHOP'S CASTLE	—	9 57			—	—	—	—			—
BRECON AND MERTHYR.	13 67	45 4	Brecon (Including Caerphilly Branch.)	Bassaleg Junction	13 67	—	—	—			—
			Brecon	Pontsticill	—	—	—	16 21			
			Pontsticill	Rhydycar	—	6 20					
			Pontsticill (Including Rhymney Branch.)	Bassaleg	—	—	21 7				
	13 67	45 4									
					13 67	6 20	21 7	16 21			
CAMBRIAN	8 56	216 72	Whitchurch Junction.	Oswestry	—	—	—	18 12			—
			Oswestry	Llanymynech	5 76						
			Llanymynech	Llanfyllin	—	9 13					
			Llanymynech	Buttington Junction.	—	—	—	7 2			
			Buttington Junction.	Welshpool	2 60						
			Welshpool	Moat Lane Junction.	—	—	—	18 19			
			Moat Lane Junction.	Talyllyn Junction	—	—	—	55 76			
			Moat Lane Junction.	Aberystwith	—	—	—	43 36			
			Glandovey Junction.	Barmouth Junction.	—	—	—	20 1			
			Barmouth Junction.	Harlech	—	12 9					
			Harlech	Portmadoc	—	—	—	8 66			
			Portmadoc	Criccieth	—	4 75					
			Criccieth	Afonwen Junction.	—	—	—	3 24			
			Afonwen Junction.	Pwllheli	—	4 13					
			Barmouth Junction.	Dolgelly	—	7 36					
					8 56	37 66	—	174 76			
CHARNWOOD FOREST	—	10 0	Charnwood Forest Junction.	Loughboro'	—	10 0	—	—			—

under which the various Portions of the Line under the Control of the several Companies 31st December 1892.

OF OTHER RAILWAYS WORKED BY THEM. the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)												
- - WORKED BY TELEGRAPH. Not on either of the foregoing Systems.					Single Lines of Railway (not included in the foregoing Columns), (1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or portions thereof at one and the same time; or (2.) Worked under the Train Porter System; or (3.) Worked under the Train Staff System.						Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only.*	REMARKS.
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of System as above. (1.)	Distance of Train Porter System. (2.)	Distance of Train Staff System. (3.) With Tickets.	Distance of Train Staff System. (3.) Without Ticket.		
							m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
- -	- -	—	—	—	- - -	- - -	—	—	—	—	21 34	
- -	- -	—	—	—	Bishop's Castle -	Stretford Bridge Junction.	9 57	—	—	—	—	Goods lines at Brecon Merthyr, &c.
- -	- -	—	—	—	Pant Junction -	Dowlais - -	—	—	1 36	—	2 51	
									1 36	—	2 51	
- -	- -	—	—	—	Llynclys - -	Porthywaen -	—	—	—	—	*1 65	* Worked under system No. 1.
					Llanymynech -	Nantmawr - -	—	—	—	—	*3 75	
					Abermule - -	Kerry - -	3 55					
					Junction line to join Great Western Railway at Oswestry.		—	0 14				
					Loop line at Barmouth - - -		—	0 21				
					Aberdovey Junction.	Aberdovey Harbour.	—	—	—	—	0 38†	† Worked under system No. 2.
							3 55	0 35	—	—	6 18	
- -	- -	—	—	—	- - -	- - -	—	—	—	—	—	

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic* and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under									
			Worked by Telegraph - - - - - - - -									
			On the Absolute Block System.						On the Permissive Block System.			
						Distance of Single Line.						
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*												
CHESHIRE LINES -	m. ch. 118 3	m. ch. 0 1	Liverpool Central Station.	Manchester Central Station.	m. ch. 34 4	m. ch. —	m. ch. —	m. ch. —	- - -	- - -	m. ch. —
			Warrington Straight Line - -		2 17						
			Chorlton-cum-Hardy Junction.	Throstle West Junction.	2 2						
			Glazebrook East Junction.	Woodley Junction	15 62						
			Apethorne Junction.	Godley Junction -	2 16						
			Skelton Junction	Broadheath Junction.	0 39						
			Skelton Junction	Deansgate Junction.	0 32						
			Bowdon Junction	Chester - -	30 72						
			Halewood East Junction and Hunts Cross West Junction.	Huskisson and Aintree, Liverpool.	15 49						
			Southport Junction, Aintree.	Southport - -	14 3						
			Cornbrook Loops	- - - -	0 27						
			Mouldsworth -	Helsby - - -	—	3 70					
			Winsford Branch	- - - - -	—	6 11					
					118 3	10 1	—	—			
CLEATOR AND WORKINGTON JUNCTION.	11 15	12 73	Cleator Moor Junction.	Siddick Junction	11 15	—	—	—	- - -	- - -	—
			Calva Junction -	Linefoot Junction	—	—	—	6 30			
			Distington Junction.	Rowrah Junction	—	6 43					
					11 15	6 43	—	6 30			
COCKERMOUTH, KESWICK, AND PENRITH.	—	31 14	Cockermouth Junction.	Penrith - -	—	18 12	—	13 2	- - -	- - -	—
COLNE VALLEY AND HALSTEAD.	—	19 0	- - -	- - -	—	—	—	—	- - -	- - -	—
CORRIS - -	—	6 40	- - -	- - -	—	—	—	—	- - -	- - -	—
DOVER AND DEAL -	8 28	—	Buckland Junction	Deal Junction -	8 28	—	—	—	- - -	- - -	—
EAST AND WEST JUNCTION.	1 34½	49 45½	Ravenstone Junction.	Broom Junction -	1 34½	49 45½					
EASTERN AND MIDLANDS.	6 44	102 69	Lynn, South -	Grimston Road -	6 44	—	—	—	- - -	- - -	—
			Melton Constable	Aylsham - -	—	11 19					
			Great Ormesby -	Yarmouth -	—	5 40					
			Aylsham - -	Great Ormesby -	—	—	—	24 40			
			Grimston Road -	Norwich - -	—	—	—	46 35			
			Melton Constable	Cromer - -	—	—	—	15 15			
					6 44	16 59	—	86 10			
FESTINIOG -	—	13 20	Portmadoc -	Duffws - -	—	13 20	—	—	- - -	- - -	—
FURNESS - - -	73 45	34 78	Carnforth - -	Sellafield - -	63 51	—	—	—	- - -	- - -	—
			Leven Junction -	Greenodd Junction	0 29						
			Plumpton - -	Priory Station -	1 72						
			Millwood Loop -	- - - -	0 41						
			Millwood Junction	Thwaite Flat -	1 2						
			Salthouse Junction	Buccleuch Junction.	0 37						

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

Worked by Telegraph. Not on either of the foregoing Systems.					Single Lines of Railway (not included in the foregoing Columns), (1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or portions thereof at one and the same time; or (2.) Worked under the Train Porter System; or (3.) Worked under the Train Staff System.						Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only.*	Remarks.
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of: System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.) With Tickets.	Train Staff System. (3.) Without Ticket.		
							m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
- -	- -	—	—	—	Allerton Branch -	- - -	—	—	—	—	§0 47	* Worked under system No. 1.
					Cressington Junction.	Garston Old Station.	—	—	—	—	§0 29	
					Halewood West Junction.	Hunt's Cross East Junction.	—	—	—	—	†0 62	† Double line worked on the permissive block system.
					Falks Branch, Winsford -	-	—	—	—	—	‡0 28	
					George's Road Junction, Stockport.	Heaton Mersey West Junction.	—	—	—	—	†1 3	‡ Worked under system No. 3.
					Northwich Salt Branches -	-	—	—	—	—	*3 66	§ Double line worked on absolute block system.
					Winnington Branch -	- - -	—	—	—	—	*1 63	
											8 58	
- -	- -	—	—	—	Cloffock's Junction	Workington Bridge Junction.	—	—	—	—	*0 30	* Double line worked by electric bell signal.
					Harrington Junction.	Harrington Ironworks.	—	—	—	—	§1 35	
					Harrington Junction.	Cammell's Ironworks.	—	—	—	—	‡1 10	‡ Worked under system No. 3.
					Harrington Junction.	Moss Bay Ironworks.	—	—	—	—	§1 13	
					Dock Junction -	Lonsdale Dock -	—	—	—	—	‡1 11	§ Worked under system No. 1.
											5 19	
- -	- -	—	—	—	- - -	- - -	—	—	—	—	—	
- -	- -	—	—	—	Chappel - -	Haverhill - -	—	—	19 0	—	—	
- -	- -	—	—	—	Machynlleth -	Aberllefenny -	6 40†	—	—	—	4 40	† Corris to Aberllefenny 1 m. 40 ch., worked also under train staff system without tickets.
- -	- -	—	—	—	- - -	- - -	—	—	—	—	—	
- -	- -	—	—	—	- - -	- - -	—	—	—	—	1 15	
- -	- -	—	—	—	- - -	- - -	—	—	—	—	0 54	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	7 64	Branches to Mines and Works.
Carnforth Station, Junc. cabin	Carnforth No. 2 cabin	0 13*										* Worked by electric bells and gongs.
Corkickle No. 1 Cabin.	Corkickle No. 2 Cabin.	—	—	0 23*								

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under) WORKED BY TELEGRAPH - - - - - -								
			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*											
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
FURNESS—*cont.* -	—	—	St. Luke's Junction.	Ramsden Dock -	1 48						
			Sellafield - -	Corkickle No. 2 Cabin.	—	—	—	9 54			
			Corkickle No. 1 Cabin.	Bransty - -	—	—	—	1 1			
			Foxfield - -	Coniston - -	—	10 7					
			Plumpton - -	Greenodd - -	2 40						
			Greenodd - -	Lakeside - -	—	—	—	5 60			
			Arnside - -	Hincaster	—	5 23					
			Salthouse - -	Piel - -	—	2 70					
			Goldmire Curve -	- - -	0 32						
					72 32	18 20	—	16 35			
GARSTANG AND KNOT END.	—	7 0	- - -	- - -	—	—	—	—	- - -	- - -	—
GOLDEN VALLEY -	—	19 0	- - -	- - -	—	—	—	—	- - -	- - -	—
GREAT EASTERN -	536 69	497 39	Liverpool Street -	Enfield - -	10 61	—	—	—	- - -	- - -	—
			Hackney Downs Junction.	Copper Mills Junction, near Tottenham.	1 68						
			Clapton Junction	Chingford - -	5 78						
			Hall Farm Junction.	Copper Mills Junction.	0 24						
			Edmonton Bury St. Junction.	Cheshunt - -	5 2						
			Seven Sisters Junction.	Palace Gates -	2 49						
			Bethnal Green Junction.	Norwich, Victoria	113 0						
			Shenfield - -	Wickford - -	8 67						
			Wickford Junction.	Prittlewell - -	—	—	—	11 54			
			Prittlewell - -	Southend - -	0 60						
			Wickford - -	Southminster -	—	16 36					
			Belchamp Junction.	Fanton Junction -	—	0 76					
			Woodham Ferris Junction.	Maldon West Station.	—	7 5					
			Maldon West Station.	Maldon East Junction.	1 13						
			Witham West Curve - -		0 19						
			Witham East Curve - -		0 17						
			Langford Junction	Maldon East Station.	0 59						
			Witham South Junction.	Langford Junction	—	4 66					
			Langford Junction.	Maldon West Junction.	0 16						
			Witham - -	Braintree Goods Junction.	—	5 70					
			Marks Tey -	Bury - -	—	31 1					
			Colchester - -	Wyvenhoe - -	4 29						
			Wyvenhoe - -	Great Bentley -	—	—	—	4 48			
			Great Bentley -	Thorpe - -	4 32						
			Thorpe (T.H.) Junction.	Walton-on-Naze -	—	5 9					
			Loop, Eastgate Junction.	St. Botolph's and Hythe Junction.	1 4						
			Thorpe (T.H.) Junction.	Clacton-on-Sea -	—	—	—	4 56			
			Manningtree Junction.	Harwich - -	11 24						
			Manningtree North	Curve - -	0 23						
			East Suffolk Junction.	Yarmouth South Town.	52 19						
			Westerfield -	Felixstowe Station	—	—	—	13 23			
			Beccles - -	Coke Ovens Junction.	—	7 52					
			Coke Ovens Junction.	Lowestoft - -	0 41						
			Saxmundham Junction.	Aldeburgh - -	—	7 74					
			Tivetshall - -	Beccles - -	—	19 41					
			Wymondham -	Forncett -	6 16						
			Stratford (Central Junction).	Norwich, Thorpe Junction.	122 10						
			Wensum Curve, between Trowse Swing Bridge and Whitlingham Junction.		0 25						
			Stratford (Western Junction).	Woolwich - -	5 1						

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		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
		0 13	—	0 23							7 64	
- - - - - -		—	—	—	Garstang and Catterall Station.	Pilling Station	7 0	—	—	—	—	
- - - - - -		—	—	—	Pontrilas - -	Hay - -	—	—	—	19 0	—	
- - - - - -		—	—	—	Braintree Goods Junction.	Braintree Station	—	0 30	—	—	—	*Double Lines.*
					Wyvenhoe -	Brightlingsea -	5 0	—	—		0 53	Bishopsgate Goods Branch.
					Bentley Junction	Hadleigh - -	7 25	—	—		0 21	Loughton Goods Branch.
					Mellis - -	Eye - -	2 71	—	—		0 26	Wisbech Goods Branch.
					Wickham Market	Framlingham -	5 52	—	—		0 26	Lynn Goods Branch.
					Felixstowe Station	Felixstowe Pier -	0 69	—	—		0 15	Chingford Goods Branch.
					Millwall Boundary Junction.	North Greenwich	—	—	1 7		0 4	Hertford Goods Branch.
											1 75	Total double lines.
												Single Lines.
											0 39	Pepper Warehouse Branch, Blackwall.
											0 41	Spitalfields Coal Line.
											0 23	Braintree Goods Branch.
											1 16	Ipswich Goods Branch.
											0 29	Yarmouth, South Town Branch.
											0 12	Cambridge Goods Line.
											0 8	Cambridge Curve, Hills Road to Great Northern Railway.
											0 7	Cambridge Curve, Mill Road to Midland Railway.
											1 22	Lynn Harbour Branch.
											1 5	Lynn Dock Branch.
											0 19	Sudbury Goods Branch.
											0 25	Hythe Goods Branch.
											1 32	Snape Goods Branch.
											0 31	Harwich Goods Branch.
											0 17	Sutton Goods Line.
											8 6	Total single lines.

PORTIONS OF THE COMPANY'S RAILWAYS, OR
(Where the System is not continuous, enter separately one under the other, under

WORKED BY TELEGRAPH - - - - - - -

RAILWAY COMPANY.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Lite.					
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ENGLAND AND WALES—*continued.*											
GREAT EASTERN—*continued.*	m. ch. —	m. ch. —	Custom House -	Albert Dock Junction.	m. ch. 0 18	m. ch.	m. ch.	m. ch.			m. ch.
			Albert Dock Junction.	Beckton - -	—	1 65					
			Stratford, Southern Junction.	Victoria Park -	1 31						
			Central Junction -	Channelsea Junction.	0 29						
			Stratford, Chobham Farm Junc.	Fork Junction -	0 35						
			Stratford, Southern Junction.	Stratford, Eastern Junction.	0 13						
			Channelsea Junction.	Loughton Branch Junction.	0 62						
			Stratford (Loughton Branch Junc.).	Epping - -	11 67						
			Epping - -	Ongar - -	—	6 19					
			Lea Bridge - -	Hall Farm Junction.	0 52						
			Tottenham West Junction.	Tottenham South Junction.	0 13						
			Angel Road -	Edmonton -	—	1 25					
			Broxbourne -	Hertford - -	5 63						
			St. Margarets -	Buntingford -	—	13 49					
			Fenchurch Street	Blackwall -	3 43						
			Stepney - -	Bow Junction -	1 54						
			Salmon's Lane Junction.	Limehouse - -	0 25						
			Bishop Stortford -	Braintree - -	—	17 70					
			Audley End -	Bartlow - -	—	7 43					
			Shelford - -	Metford - -	—	28 25					
			Haverhill Loop from G.E. to C.V. Lines		—	1 0					
			Shelford, Shepreth Branch Junction.	Shepreth - -	5 28						
			Ely, Peterboro' Branch Junction.	Peterboro' Fletton Junction.	28 30						
			Peterboro, Fletton Junction.	Junc. with Midland and London and North-Western.	0 19						
			March, North Junction.	Wisbech - -	7 49						
			March - -	Peterboro' Arms -	0 14						
			Ely, Lynn Branch Junction.	Lynn - -	25 1						
			North Wootton -	Hunstanton - -	—	—	—	12 0			
			Lynn Junction -	North Wootton -	—	2 76					
			Lynn - - -	Dereham - -	—	26 11					
			Heacham - -	Wells - - -	—	18 5					
			Ely South Curve - - -		1 0						
			Dereham South Curve - -		0 14						
			Wisbech - -	Magdalen Road -	—	9 42					
			Denver Junction -	Stoke Ferry - -	—	7 11					
			Barnwell Junction	Fordham Junction.	—	11 71					
			Fordham Junction.	Mildenhall -	—	7 19					
			Cambridge -	Newmarket -	13 70						
			Newmarket -	Warren Hill Junction.	0 14	—	—	1 0			
			Warren Hill Junction.	Haughley - -	25 25						
			Chesterton Junction.	St. Ives Junction	12 50						
			St. Ives Junction	Needingworth Junction.	1 74						
			Somersham Junction.	Ramsey - -	—	6 63					
			Ely, Sutton Branch Junction.	Needingworth Junction.	—	14 76					
			Ely Dock Junction.	Snailwell Junction.	—	10 58					
			Snailwell Junction.	Warren Hill Junction.	0 62						
			Snailwell Junction.	Chippenham Junction.	0 61						
			Brundall Junction	Breydon Junction	—	11 21					
			Reedham - -	Breydon Junction	—	7 12					
			Breydon Junction	Yarmouth - -	1 13						
			Roudham Junction.	Swaffham - -	—	18 23					

OF OTHER RAILWAYS WORKED BY THEM.

the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

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			Distance of Single Line.				Distance of				
From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	From	To	System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.) With Tickets.	Train Staff System. (3.) Without Ticket.	
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic* and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under								
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ENGLAND AND WALES—*continued.*											
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
GREAT EASTERN—*continued.*			Thetford Bridge -	Bury Junction -	—	11 50					
			Thetford West Junction.	Thetford Bridge -	0 69						
			Norwich, Thorpe -	Reedham - -	12 18						
			Whitlingham Junction.	Cromer - -	—	—	—	21 77			
			Wroxham - -	County School -	—	23 48					
			Wymondham -	Dereham - -	11 31						
			Dereham -	Wells - - -	—	21 50					
			Trowse Upper Junction.	Trowse Lower Junction.	1 2						
			Reedham - -	Coke Ovens Junction.	—	10 61					
			Marsh Junction -	Swing Bridge Junction.	—	0 35					
			Fleet Junction -	Haddiscoe - -	—	0 69					
					536 69	405 7	—	69 18			
GREAT NORTHERN -	536 0	180 69	London - -	Askern - -	160 14	—	—	—	- - -	- - -	—
			Finsbury Park -	Canonbury - -	1 31						
			Finsbury Park -	Finchley - -	4 70						
			Fletton Junction	Longville Junction	1 50						
			Finchley - -	High Barnet -	3 63						
			Highgate - -	Muswell Hill -	1 11						
			Wood Green -	Enfield - - -	4 15						
			Welwyn Junction	Hertford - -	0 16	7 20					
			Welwyn Junction	Dunstable - -	0 63	16 63					
			Hitchin - -	Shepreth - -	17 62						
			Essendine - -	Ryhall - -	—	1 50					
			Wansford Road -	Wansford Junction.	0 6	1 13					
			Sedgebrook -	Barkstone East Junction.	4 3						
			Werrington Junction.	Pyewipe Junction	60 26						
			Louth - -	Bardney - -	0 32	20 47					
			St. Albans, G.N. to	L. & N.W. Lines -	—	0 52					
			Barkstone Junction.	Boston - -	27 32						
			Kirkstead - -	Horncastle -	0 15	7 10					
			Lincoln - -	Honington - -	17 79						
			Washingboro' -	Greetwell Junction, Lincoln.	1 0						
			Essendine - -	Bourn - -	0 14	6 32					
			Newark - -	Bottesford -	9 26						
			Scalford - -	Waltham - -	0 10	3 43					
			Tilton - -	Leicester - -	11 29						
			Colwick East Junction.	Pinxton - -	18 22						
			Colwick West Junction.	Colwick North Junction.	0 58						
			Awsworth Junction.	Egginton Junction.	18 60						
			Egginton Junction.	Dove Junction -	1 21						
			Leen Valley Junction, Daybrook.	Annesley - -	7 55						
			Bromshall Junction.	Stafford - -	2 19	10 39					
			Holbeck - -	Bowling Junction	8 65						
			Beeston - -	Batley - -	4 65						
			Ardsley - -	Laister Dyke -	10 27						
			Laister Dyke -	Bradford Goods -	1 9						
			St. Dunstan's East.	Lancashire and Yorkshire Junction, Bradford.	0 58						
			Queensbury South	Queensbury North	0 15						
			St. Dunstan's East	St. Dunstan's West	0 12						

OF OTHER RAILWAYS WORKED BY THEM.

the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

Worked by Telegraph.					Single Lines of Railway (not included in the foregoing Columns), (1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or portions thereof at one and the same time; or (2.) Worked under the Train Porter System; or (3.) Worked under the Train Staff System.						Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only.*	Remarks.
Not on either of the foregoing Systems.							Distance of					
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.) With Tickets.	Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
							21 57	0 30	1 7	—	10	
Finchley -	Edgware -	—	3 73	—	Stamford	Wansford -	—	—	7 8	—	—	
Hatfield -	St. Alban's	—	5 24									
Holme -	Ramsey -	—	5 65									
Ryhall -	Stamford	—	2 7									
Firsby -	Spilsby -	—	4 14									
Marlpool -	Heanor -	0 6	1 31									

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under									
			Worked by Telegraph									
			On the Absolute Block System.						On the Permissive Block System.			
						Distance of Single Line.						
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
ENGLAND AND WALES—*continued.*											
GREAT NORTHERN—*continued.*			Laister Dyke East	Shipley - -	6 11						
			Quarry Gap - -	Cutlers Junction -	0 27						
			Branch to Midland	Railway at Shipley	0 8						
			Stanningley - -	Greenside, Pudsey	0 13	1 32					
			St. Dunstan's North.	Keighley - - -	13 1						
			Branch to Midland	Railway, Keighley	0 16						
			Queensbury East	Holmfield - -	2 25						
			Wortley East -	Wakefield (Ings Junction).	9 55						
			Wortley South -	Wortley West -	0 23						
			Wrenthorpe South	Runtlings Lane Junction.	3 68						
			Runtlings Lane Junction.	Batley - - -	—	2 70					
			Batley - - -	Adwalton Junction.	3 12						
			Wrenthorpe North	Wrenthorpe West	0 29						
			Runtlings Lane Junction.	Dewsbury and Batley.	3 75						
			Boston - -	Grimsby - -	47 28						
			Grantham - -	Nottingham -	22 35						
			Stanton Junction	Marlpool - -	0 60	1 48					
			Firsby - -	Skegness - -	1 64	7 37					
			Louth - -	Mablethorpe -	0 22	11 42					
			Willoughby -	Sutton-on-Sea -	0 20	6 65					
			Sutton - -	Mablethorpe -	0 4	2 44					
			Bourn - -	Sleaford - -	0 21	17 8					
			Bourn - - -	Spalding - -	0 13	9 20					
			Spalding - -	Sutton Bridge -	0 56	14 72					
			Saxondale Junction.	Stathern Junction	7 20						
			Bottesford North	Melton Mowbray Station.	14 74						
			Trent Lane Jn., Nottingham.	Daybrook Junction	3 69						
			Doncaster - -	Wakefield - -	19 10						
			Sandal Junction -	Walton Junction, Midland Railway.	0 56						
			Adwick Junction	Haggswood Junction.	6 65						
			Hare Park - -	Crofton Junction	1 29						
			Lofthouse North -	Methley - -	5 2						
			Lofthouse South -	Lofthouse East -	0 25						
			Halifax Junction	Holmfield - -	2 46						
			Holmfield - -	Halifax (St. Pauls)	3 8						
	586 9	180 69			586 3	151 7					
GREAT NORTHERN AND GREAT EASTERN JOINT.	58 19	—	Sleaford South Junction.	Junction with Sleaford Branch at Sleaford.	0 39						
			Sleaford West Junction.	Sleaford North Junction.	2 8						
			Sleaford South Junction.	Junction with Honington Line, Lincoln.	20 4						
			Greetwell Junction	Pyewipe Junction, Lincoln.	3 10						
			Boultham Junction.	Holmes West Junction.	0 27						
			Pyewipe Junction	East Trent Junction, Gainsboro'.	14 45						
			West Trent Junction, Gainsboro'.	Black Carr Junction, Doncaster.	17 46						
	53 57	4 55	Huntingdon Junction with Great Northern.	Godmanchester -	0 67	—	—	—	- - -	- - -	—
			Needingworth Junction.	March Loop Junction.	16 23						
			Whitemoor Junction.	Spalding South Junction.	19 7						
			Spalding North Junction.	Sleaford South Junction.	17 40						
			Godmanchester -	St. Ives - -	—	4 55					
	111 76	4 55			111 76	4 55					

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

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Not on either of the foregoing Systems.						Distance of					
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.) With Tickets.	Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.	*Colliery and Goods Branches.*		m. ch.	m. ch.	m. ch.	m. ch.	Double. m. ch.	Single. m. ch.	
					Horton Junction	City Road Goods	—	—	—	—	1 26		
					Branch to Lancashire and Yorkshire Railway, Dewsbury. Pye Hill	Midland Railway	—	—	—	—	0 48		
					Branch to Burton from North Staffordshire Railway. Palmerston Branch		—	—	—	—	0 25		
					Cinder Hill	„	—	—	—	—	0 25	0 11	
					Watnall	„	—	—	—	—	0 31		
					Codnor Park	„	—	—	—	—	—	1 5	
					West Hallam	„	—	—	—	—	—	0 29	
					Woolsthorpe Branch		—	—	—	—	—	0 17	
					Bestwood Colliery Branch (Leen Valley Railway). Stanton Branch		—	—	—	—	—	5 40	
					Eaton Branch		—	—	—	—	0 9	0 37	
					Eastwell Branch		—	—	—	—	—	3 13	
					Branch to Lancashire and Yorkshire Railway at Methley. Branch to Gas Works, Stafford		—	—	—	—	—	3 19	
							—	—	—	—	0 28		
							—	—	—	—	—	0 26	
		0 6	22 54	—			—	—	7 8	—	3 72	15 50	
		—	—				—	—	—	—	0 11		Chatteris Dock branch single line.

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under									
			Worked By Telegraph - - - - -									
			On the Absolute Block System.							On the Permissive Block System.		
						Distance of Single Line.						
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff Service in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued*.												
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
GREAT NORTHERN AND LONDON AND NORTH-WESTERN JOINT COMMITTEE.	22 75*	—	Welham Junction	Melton Mowbray	13 54	—	—	—	- - -	- - -	—
			Melton Mowbray	Saxondale Junction.	—*						
			Hallaton Junction	Drayton Junction	3 30						
			Stathern Junction	Bottesford North	5 71						
					22 75						
GREAT WESTERN -	1,078 62	1,156 48	Section 1.—Paddington to Penzance.									
			Paddington - -	Penzance† - -	235 40	—	—	90 16	- - -	- - -	—
			Truro - -	Falmouth - -	—	—	—	11 68			
			Bristol Loop - - -		0 26						
			West London Junction.	North Pole Junction.	0 34						
			Southall - -	Brentford -	3 47						
			West Drayton -	Uxbridge - -	2 39						
			West Drayton Junction.	Staines - - -	—	6 0					
			Slough - - - -	Windsor§ - -	2 55						
			Slough West Fork - - -		0 19						
			Maidenhead -	Kennington Junction.	—	36 57					
			Princes Risboro'	Aylesbury§ -	—	7 27					
			Twyford - -	Henley - -	—	4 47					
			Didcot - - -	Winchester - -	—	43 27					
			Reading West Fork -		0 46						
			Southcote Junction	Basingstoke -	15 35						
			Southcote Junction.	Newbury - -	15 27						
			Newbury - -	Holt Junction -	8 34	32 35					
			Savernake - -	Marlborough -	—	5 47					
			Bristol (South Wales Junction).	Severn Tunnel Junction West.	16 65						
			Narroways Hill Junction.	Ashley Hill Junction.	0 30						
			Bristol (North Somerset Junction.	Frome - -	3 51	19 55					
			Bathampton -	Bradford Junction	9 10						
			Westbury Junction.	Salisbury‖ - -	4 64	19 51					
			Thingley Junction	Weymouth‖ - -	72 53						
			Dorchester Junction.	Dorchester, London and South-Western Railway.	0 28						
			Witham -	Wells Junction -	—	14 2					
			Wells - -	Yatton - - -	—	17 43					
			Yatton - -	Clevedon - -	—	3 45					
			Portishead Junction.	Portishead -	1 41	8 7					
			Worle, Weston loop	Uphill Junction -	3 74						
			Durston - -	Yeovil (Pen Mill)	0 10	19 76					
			Creech Junction -	Chard - - -	—	12 75					
			Norton Fitzwarren Junction.	Minehead -	—	22 60					
			Norton Fitzwarren Junction.	Barnstaple - -	—	43 77					
			Tiverton Junction	Tiverton - -	0·13	4 47					
			Tiverton - -	Stoke Canon -	—	10 53					
			Morebath Junction.	Tiverton - -	—	8 41					
			Tiverton Junction	Hemyock - -	—	7 29					
			Newton Junction	Kingswear‡ - -	5 68	—	—	8 63			
			Newton Junction	Moretonhampstead	—	12 5					
			Totnes - - -	Ashburton - -	—	9 16					
			Tavistock Junction.	Marsh Mills -	0 24						
			Marsh Mills -	Lidford - - -	—	19 19					

OF OTHER RAILWAYS WORKED BY THEM.
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Not on either of the foregoing Systems.												
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of System as above. (1.)	Distance of Train Porter System. (2.)	Distance of Train Staff System. (3.) With Tickets.	Distance of Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
												* Melton Mowbray to Saxondale, 22 m. 14 ch., included in the Great Northern Company's return.
												† Exclusive of the following stations, viz., Paddington, West Drayton, Slough, Reading, Swindon, Bath, Bristol, Taunton, Exeter, Newton Abbot, North Road, Mill Bay, Truro, and Penzance.
		—	—	—	Watlington - -	Princes Risboro' -	8 70	—	—	—	—	The relief lines (up and down) between Portobello Junction and Maidenhead Bridge Junction and between Cholsey and Moulsford and East Junction, Didcot, are worked on the absolute block system.
					Moulsford - -	Wallingford -	3 27					‡ Exclusive of the station at Kingswear.
					Uffington - -	Faringdon - -	3 50					¶ Exclusive of Bodmin Station.
					Hallatrow - -	Camerton - -	3 50					§ Exclusive of Windsor Station and Aylesbury Station.
					Swindon Junction	Highworth - -	5 46					‖ Exclusive of Yeovil Station and Salisbury Station.
					Dauntsey - -	Malmesbury -	6 43					
					Chippenham -	Calne - - -	5 21					
					Maiden Newton	Bridport (West Bay)	11 21					
					Upway Junction	Abbotsbury - -	6 9					
					Heathfield -	Ashton - - -	6 14					
					Churston Junction	Brixham - -	2 1					
					Bodmin Road -	Bodmin - -	3 51					
					Bodmin - -	Boscarne Junction.¶	2 66					
											0 30	From Brentford Passenger. To Brentford Goods.
											0 45	Clifton May Bank Junction. Clifton May Bank.
											1 38	Bristol. Bristol Harbour.
											0 34	Portishead Portishead Pier.
											0 34	Near St. Thomas Station. Exeter Basin.
											1 44	Ashton - Teignhouse.
											0 60	Totnes - Totnes Quay
											0 38	Dunball Siding.
											0 76	Bridgwater Docks.
											8 44	Tolcarn - Treamble.
											1 20	Treamble Gravel Hill.
											1 6	Bugle - Carbis.
											2 50	St. Denis Junction. Melangoos Mill.
											4 31	St. Denis Junction. Drinnick Mill.
											0 15	New Quay Junction. Lane Junction.
											0 14	Tiverton Goods Station.
											0 5	St. Blazey Par Wharf.
											2 43	Carn Brea Portreath.
											0 43	North Crofty Branch.
											0 70	Roskeare Branch.
											0 50	Hayle Wharf Branch.
											0 12	Chard Junction. Chard London and South-Western Railway.
											2 54	Burngullow. Drinnick Mill.
											0 33	Reading - Junction with South-Eastern Railway.
											0 15	Winchester Goods Yard.

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under								
			Worked by Telegraph - - - - - - - - -								
			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff Service in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*											
GREAT WESTERN—*continued.*	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
			Lidford - -	Launceston - -	—	12 22					
			Yelverton - -	Princetown - -	—	10 44					
			Gwinear Road -	Helston - -	—	8 67					
			St. Erth Junction	St. Ives - -	—	4 22					
			Par - - -	St. Blazey - -	0 33	—					
			Fowey - - -	New Quay - -	—	24 33					
					405 6	450 9	—	110 67			
			Section 2.—Swindon to New Milford.								
			Swindon - -	New Milford -	207 47†						
			Maindee Junction, East.	Maindee Junction, North.	0 17						
			Cardiff East Box -	East Branch Junction.	0 16						
			Carmarthen Bridge Junction.	Llandyssil‡ -	—	18 60					
			Whitland - -	Cardigan§ - -	—	25 18					
			Neath Junction -	Neath - -	0 49						
			Landore - -	Swansea* - -	1 23						
			Hafod Junction -	Morriston -	0 15	1 67					
			Llanelly - -	Llandilo - -	—	18 23					
			Pantyffynnon -	Brynamman -	—	6 46					
			Grange Court -	Rotherwas Junction.	—	21 45					
			Over Junction -	Ledbury - -	5 24	12 12					
			Churchdown -	Lansdown Junction.	3 10						
			Wye Valley Junction.	Monmouth, Troy -	0 10	14 38					
			Monmouth, Troy -	Coleford - -	—	5 20					
			Llantrissant -	Mwynddy Junction.	0 48						
			Mwynddy Junction.	Mæsaraul Junction	—	0 73					
			Blackmill - -	Gilfach - -	—	4 47					
			Brynmenin -	Pontycymmer -	1 49	—	—	2 78			
			Tondu - -	Abergwynfi -	1 0	—	—	10 52			
			Blaenavon -	Llantarnam Junction.	8 12	3 31					
			Gaer Junction -	Park Junction -	0 70						
			Ebbw Junction -	Park Junction -	0 56						
			Courtybella Junction.	Nantyglo - -	18 74	—	—	1 43			
			Aberbeeg - -	Ebbw Vale* -	5 79						
			Trevethin Junction.	Talywain Junction	4 13						
			Bassaleg Junction	Brecon and Merthyr Railway.	0 4						
			Penarth Curve -	Penarth Curve, South Box.	0 50						
			Kemble - -	Tetbury - -	—	7 19					
			Bridgend - -	Tondu§ - -	0 35	—	—	2 23			
			Kemble - -	Cirencester - -	—	4 22					
			Cheltenham -	Lansdown Junction.	0 79						
			Risca - - -	Nine Mile Point -	2 26						
			Tondu - -	Brynmenyn -	0 73						
			Brynmenyn -	Nantymoel - -	—	—	—	6 70			
			Tondu N. Box -	Porthcawl‡ -	0 32	—	—	8 49			
			Johnston Junction	Old Milford - -	—	3 78					
					266 31	148 39	—	32 75			

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Not on either of the foregoing Systems.											
From	To	Distance of Double Line.	Distance of Single Line.		From	To	Distance of				
			Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.			System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.)		
									With Tickets.	Without Ticket.	
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
							68 69	—	—	—	33 24	† Exclusive of the following stations, viz., Gloucester, Newport, Cardiff, Bridgend, Neath, Landore, Llanelly, Carmarthen Junction, Whitland, Johnston, and New Milford. ‡ Exclusive of Carmarthen Town Station and Pyle Station. § Exclusive of Cardigan Station and Tondu Station. * Exclusive of Swansea Station and Aberbeeg Station.

	From	To
1 16	Over Junction.	Gloucester.
0 71	Bullo Branch to Docks.	
4 48	Awre Junction.	New Fancy.
0 29	Alexandra Docks Junction.	Waterloo Junction.
1 70	Mæsaraul Junction.	Brofiskin.
2 54	Penrhiewfer.	Clydach.
1 71	St. David's Crossing.	Dafen.
2 18	Duffryn -	Cross Hands.
1 16	Garnant -	Gwauncaegur-wen.
1 73	Pencoed Branch.	
1 27	Pontycwmmer.	Blaengarw.
0 52	Abergwynfi	Blaenavon,
0 19	Cymmer Junction with South Wales Mineral Railway.	
1 25	Cwmffrwddoer Branch.	
1 79	Cwmnantddu Branch.	
0 45	Tywith -	Blaen Llynvi.
0 56	Swansea -	North Dock.
0 34	Llanelly Dock and Goods Loop.	
0 75	Cwmtillery Branch.	
0 48	Pill Bank Junction.	Newport Docks.
0 72	Cardiff River Side Branch.	
5 35	Cwmbran Junction.	Park Junction.
0 19	Penarth Curve, North.	
0 26	Trosnant Junction.	Junction with Ebbw Vale extension.
6 57	Ebbw Vale	Beaufort.
0 40	Porthcawl	Porthcawl Docks.
3 68	Pennar Junction.	Manmoel Colliery.
39 43		

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under									
			Worked by Telegraph - - - - - - - -									
			On the Absolute Block System.							On the Permissive Block System.		
						Distance of Single Line.						
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.		From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*												
	m. ch.	m. ch.	Section 3.—Didcot to Chester.		m. ch.	m. ch.	m. ch.	m. ch.				m. ch.
GREAT WESTERN—*continued.*			Didcot Avoiding Line - - -		0 62	—	—	—				—
			Didcot West Curve - - -		0 35							
			Didcot Station -	Wellington Junction.*	108 12							
			Shrewsbury (Coton Hill).	Holyhead Junction, Saltney.	40 30							
			Market Drayton Junction.	Nantwich Junction.‖	26 79							
			Abingdon - -	Radley - -	—	2 44						
			Swan Village Junction.	Horseley Field Junction.	1 45							
			Smethwick Junction.	Galton Junction -	0 25							
			Handsworth Junction.	Stourbridge Junction.	8 39							
			Langley Green Junction.	Oldbury - -	1 21							
			Netherton Junction.	Halesowen -	2 64	1 39						
			Lightmoor Junction.	Buildwas - -	2 24							
			Wrexham - -	To end of double line (Brymbo).	2 69							
			Gobowen - -	Oswestry† - -	—	2 31						
			Llangollen Junction.	Dolgelly - -	—	44 76						
			Bala Junction -	Blaenau - -	—	25 41						
			Ketley Junction -	Lightmoor Junction.	—	4 41						
			Lightmoor Junction.	Madeley Junction	—	3 76						
			Kidlington - -	Junction with Woodstock Railway.	—	1 12						
			Hatton	Honeybourne -	—	18 30						
					196 25	104 70						
			Section 4.—Wolvercote Junction to Wolverhampton.									
			Wolvercote Junction.	Priestfield‡ -	85 29	—	—	—				—
			Stourbridge Junction.	Stourbridge -	0 49							
			Yarnton Junction.	Fairford - -	—	21 74						
			Kings Sutton Junction.	Chipping Norton Junction.	—	20 7						
			Chipping Norton Junction.	Lansdown Junction.	—	23 17						
			Worcester (Rainbow Junction).	Tunnel Junction, Worcester.	0 28							
			Worcester (Norton Junction).	Abbotswood Junction.	0 61							
			Marsh Farm Junction.	Much Wenlock -	—	14 17						
			Much Wenlock -	Buildwas Junction	—	3 20						
			Hartlebury - -	Sutton Bridge Junction, Shrewsbury.	—	39 46						
			Droitwich Junction.	Stoke Junction -	4 6							
			Kidderminster Junction.	Bewdley Junction	—	3 23						
			Bromyard Junction.	Bromyard -	—	10 71						
					91 13	136 35	—	—				

OF OTHER RAILWAYS WORKED BY THEM.

(the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

Worked by Telegraph. Not on either of the foregoing Systems.					Single Lines of Railway (not included in the foregoing Columns). (1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or portions thereof at one and the same time; or (2.) Worked under the Train Porter System; or (3.) Worked under the Train Staff System.						Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only.*	Remarks.	
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of System as above. (1.)	Distance of Train Porter System. (2.)	Distance of Train Staff System. (3.) With Tickets.	Distance of Train Staff System. (3.) Without Ticket.			
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	From	To
		—	—	—	Bearley	Alcester	6 40	—	—	—	0 21	Bordesley Junction.	Midland Junction.
											0 52	Tipton	Tipton Basin.
											*0 73	Bushbury Junction.	Wolverhampton.
											0 70	Stafford Road.	Victoria Basin.
											0 79	Priestfield	Walsall Street.
											0 11	Congreaves Collieries.	
											0 50	Hayes Lane Collieries.	
											3 4	Kingswinford Branch.	
											3 34	Wheatsheaf Junction.	Ffrwd, Brynmally, and Gwersyllt.
											5 28	Brymbo Crossing.	Mineraand Vron.
											0 14	Wednesbury Junction.	South Staffordshire Line.
											0 25	Stratford Goods Shed.	
											0 24	Stourbridge Goods Shed.	
											0 67	Withymoor Branch.	
											0 23	Swan Village Basin Branch.	
											1 61	Legacy Colliery.	Aberderfyn Brick Works.
											0 14	Branch to Saltney Coal Stage.	
											0 56	Saltney Goods Junction.	Saltney Quay Wall.
							6 40	—	—	—	20 66		
—	—	—	—	—	Moreton-in-Marsh	Shipton-o..-Stour-	9 18	—	—	—	0 29	From Witney -	To Goods Shed.
							9 18	—	—	—	0 29		

* Exclusive of the following stations, viz., Oxford, Birmingham, Wolverhampton, Ruabon, and Wrexham.

† Exclusive of Oswestry station.

‖ Exclusive of Market Drayton station.

‡ Exclusive of the following stations, viz., Honeybourne, Worcester, Stourbridge Junction, and Dudley.

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under									
			Worked by Telegraph - - - - -									
			On the Absolute Block System.							On the Permissive Block System.		
						Distance of Single Line.						
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.		From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*												
	m. ch.	m. ch.	Section 5.—Worcester to Swansea.		m. ch.	m. ch.	m. ch.	m. ch.				m. ch.
GREAT WESTERN—*continued.*			Worcester -	Shelwick Junction	25 67	—	1 56	—	- - -	- - -		—
			Tenbury - -	Bewdley - -	—	15 21						
			Ross - -	Little Mill Junction.	—	28 51						
			Kington Junction	Kingsland -	—	5 0						
			Kingsland - -	Kington - -	—	8 28						
			Hereford (Barton)	Towards Hay -	—	—	0 19					
			Rotherwas Junction.	Barrs Court (Ayleston Branch).	1 3							
			Barrs Court Junction.	Barton -	1 8							
			Gelly Tarw - -	Mardy Junction -	0 57	5 23						
			Pontypool Road (North Junction).	Maindee Junction West.	8 55							
			Neath Junction	Swansea (South Dock).	8 14							
			Hereford (Barton)	Glynneath* - -	64 36	—	0 64					
			Glynneath - -	Neath Junction -	8 38							
			Pontypool Road East Junction.	Pontypool Road North, No. 2.	1 6							
			Mardy Junction -	Merthyr† - -	0 28							
					119 67	62 43	2 59	—				
SUMMARY:—												
Section 1 - -					405 6	450 9	—	110 67	- - -	- - -		—
„ 2 - -					266 31	148 39	—	32 75				
„ 3 - -					196 25	104 70	—	—				
„ 4 - -					91 13	136 35	—	—				
„ 5 - -					119 67	62 43	2 59	—				
Goods Lines‡ - -					‡	‡						
	1,078 62	1,156 48			1,078 62	902 36	2 59	143 62				

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

Worked by Telegraph.					Single Lines of Railway (not included in the foregoing Columns), (1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or portions thereof at one and the same time; or (2.) Worked under the Train Porter System; or (3.) Worked under the Train Staff System.							Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only.*	Remarks.	
Not on either of the foregoing Systems.							Distance of							
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.) With Tickets.	Train Staff System. (3.) Without Tickets.				
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.			
- - -	- - -	—	—	—	Kington - -	New Radnor -	6 42				1 25	From Crumlin Junction.	To Llanhilleth.	
					Titley - -	Eardisley - -	6 75				0 60	Maesycwmmer.	Fleur-de-Lis.	
					Titley - -	Presteign - -	5 53							
					Leominster -	Steens Bridge -	3 74				0 50	Quaker's Yard.	Quaker's Yard Low-Level Bridge.	
											2 71	Dare Junction.	Amman.	
											1 63	Dare Junction.	Bwllfa.	
											0 28	Pontypool Road West.	Pontypool Road, South Jn.	
											0 17	Pontypool Road South.	Coedygric.	
													* Exclusive of the station at Pontypool Road.	
													† Exclusive of Merthyr Station.	
							23 4	—	—	—	7 74		‡ *Goods and Mineral Lines worked on the Block System.*	
- - -	- - -	—	—	—	-	- - -	68 69	—	—	—	33 24	From	To	Double
							—	—	—	—	39 43	Section 1. Acton - -	Acton Wells Jn.	0 46
							6 40	—	—	—	20 66	Frome Mineral Loop Laira -	Coxside	0 26 / 1 63
							9 18	—	—	—	0 29	Section 2.		
							23 4	—	—	—	7 74	Pontypool South Jn.	Panteg -	0 67
							—	—	—	—	40 6	Courtybella Junction.	Park Jn.	0 73
							107 51	—	—	—	142 2	Section 5. GellyTarwJn.	Dare Jn.	0 11
														4 46
												Section 1.		Single
												Portreath Penwithers -	Incline. Newham	0 37§ / 2 33§
												Section 2. Bullo -	Cinderford & Churchway.	6 31
												Gellyrhaidd Ely Valley.	Gilvach Goch.	2 50§
												Gellyrhaidd Jn.	Gellyrhaidd Ely Valley.	1 24§
												Mwynddy Jn.	Penrhiewfer.	5 68§
												Pyle Junc. (L. & O.)	Pyle (L. & O.)	0 7§
												Longdyke Jn.	Roath Jn.	1 17
												Llanharran	Black Mill	8 24*
												Swansea (V.N.)	Swansea Eastern Depôt.	0 29§
												Llanelly -	Morfa Jn.	1 61§
												Section 3. Croesnewydd South Fork.	Croesnewydd Jn.	0 18§
												Moss Valley Line.		1 63
												End of double line.	Brymbo Crossing.	0 20§
												Section 5. GellyTarwJn.	Dare Jn.	2 38§
													m. ch.	35 40
													Total mileage 40 6	
													* Worked on Electrical Train Staff System.	
													§ 17 m. 65 ch. worked on the Absolute Block System, without Train Staff.	

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under								
			Worked by Telegraph - - - - - - - -								
			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*											
HAMMERSMITH AND CITY.	m. ch. 2 77	m. ch. —	Westbourne Park	Hammersmith and Shepherd's Bush Junction.	m. ch. 2 77	m. ch. —	m. ch. —	m. ch. —	- - - -	- - - -	m. ch. —
HULL, BARNSLEY, AND WEST RIDING JUNCTION RAILWAY AND DOCK.	55 60	—	Cudworth - -	Hull, Alexandra Dock.	54 16	—	—	—	- - - -	- - - -	—
			Gowdall Junction	Hensall Junction, Lancashire and Yorkshire Railway.	0 40						
			Beverley Road (Hull).	Cannon Street -	1 4						
					55 60						
ISLE OF WIGHT -	1 0	10 27	Ryde - -	Ventnor - -	1 0	—	—	10 27	- - - -	- - - -	—
Brading Harbour Railway.	—	2 61									
	1 0	13 8									
ISLE OF WIGHT CENTRAL.	—	33 60	Ryde - -	Newport - -	—	8 60	—	—	- - - -	- - - -	—
			Newport - -	Freshwater -		12 0					
						20 60					
LANCASHIRE AND YORKSHIRE.	456 30	16 19	Victoria Station, Manchester.	Goose Hill Junction, Normanton.	50 31½	—	—	—	Through Victoria Station -		—
			Wakefield (Whitham's Sidings).	Goole (Mineral Junction).	27 9½	—	—	—	Through Wakefield Station.		
			Miles Platting -	Staley Bridge -	6 40½						
			Milner Royd Junction.	Bradford - -	11 15½						
			Low Moor - -	Mirfield and Thornhill.	10 17						
			Dryclough Junction.	Stainland - -	2 63						
			Springwood Junction.	Penistone - -	12 70½						
			Todmorden -	Gannow Junction, Burnley.	9 53½						
			Rochdale via Oldham	Middleton Junction.	9 58						
			Royton Junction	Royton - -	1 15½						
			Middleton Junction.	Middleton -	1 2½						
			Rochdale - -	Facit - - -	1 0	4 8½					
			Facit - - -	Bacup - -	3 3½						
			Victoria (4 lines of rails).	Newton Heath -	2 24½						
			Dewsbury Junction.	Dewsbury - -	1 42½						
			Horbury Junction	Barnsley - -	8 1½						
			Woolley Tunnel - - - -		—	0 79					
			Sowerby Bridge -	Ripponden -	3 0½						
			Ripponden - -	Rishworth - -	—	0 60					
			Clayton West Branch - - -		—	3 37½					
			Pontefract - -	Methley Junction	4 51½						
			Victoria Station, Manchester.	Bury Junction, Bolton.	10 53½						
			Sandhills - -	Southport - -	17 4½						
			Southport - - -	Wigan - -	16 75½						
			Ormskirk - -	Rainford Junction.	5 78½						
			Walton Junction	Preston - -	27 70						
			Preston Junction	Colne - -	24 26½						
			Bolton (Blackburn Junction).	Hellifield - -	38 8½	—	—	—	Through Blackburn Station.		
			Liverpool (Exchange).	Castleton - -	40 9½	—	—	—	Through Bolton Station.		
			Great Harwood Junction.	Padiham Junction, Rose Grove.	9 3						
			Clifton Junction -	Accrington -	18 51½						
			Lostock Junction	Euxton Junction -	11 70						

OF OTHER RAILWAYS WORKED BY THEM.

the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

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Not on either of the foregoing Systems.												
From	To	Distance of Double Line.	Distance of Single Line.		From	To	Distance of					
			Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.			System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.)			
									With Tickets.	Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	—	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	9 77	
											9 77*	* Including 8 m. 32 ch. worked on the Absolute Block System.
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	—	
					Brading - -	Bembridge - -	—	—	—	2 61	—	
- - -	- - -	—	—	—	Cowes -	Sandown - -	—	—	13 0	—	—	
- - -	- - -	—	—	—	Lockwood Junction.	Meltham - -	—	—	—	3 43½	0 42½	Clitheroe Line Siding.
					Tottington Branch	- -	—	—	—	3 30½	1 27	Silkstone Branch.
											0 71	Oldham Road Branch.
											0 26½	Beswick Branch.
											2 15½	Hoddlesden Branch.
											1 0½	Heap Bridge Branch.
											0 60½	North Docks Branch.
											0 18	Blackburn (King Street) Branch.
											1 77½	Kersley Branch.
											1 8	Astley Bridge Branch.
											1 0	Bankfield Branch.
											0 37	Great Howard Street Old Line.
											0 47½	Fleetwood Dock Branch.

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under									
			Worked by Telegraph - - - - - - -									
			On the Absolute Block System.						On the Permissive Block System.			
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ENGLAND AND WALES—*continued*.												
LANCASHIRE AND YORKSHIRE —*continued*.	m. ch.	m. ch.	Crow Nest Junction.	Horwich Fork Junction.	m. ch. 6 13½	m. ch.	m. ch.	m. ch.				
			Stubbins Junction	Bacup - -	7 38							
			Cheetham Hill Junction.	Bradley Fold -	8 74							
			Knottingley -	Askern - -	10 41½							
			Hollinwood Branch - - -		4 5½							
			Oakenshaw Branch - -		0 44½							
			Brighouse - -	Wyke - -	3 71½							
			Brockholes Junction.	Holmfirth -	1 68							
			Ardwick Branch - - - -		1 69½							
			North Mersey Branch - - -		5 38							
			Windsor Bridge Junction.	Crow Nest Junction.	13 74½							
			Blackrod - -	Horwich, including Fork.	1 61½							
			Hindley Junction	Pemberton Junction.	3 38½							
			Dobbs Brow Junction.	Dicconson Lane Junction.	1 24½							
			Moss Lane Junction.	Farington Curve Junction.	1 16							
					456 30	9 25½						
LANCASHIRE AND YORKSHIRE AND LONDON AND NORTH-WESTERN JOINT LINES:—												
North Union -	5 71	—	Euxton Junction	Preston - -	5 71	—	—	—	Through Preston Station -			—
Preston and Wyre	36 49	—	Throughout.		36 49	—	—	—	- - -	- - -		—
Preston and Longridge.	—	7 74	- - -	- - -	—	—	—	—	- - -	- - -		—
Ovenden Branch and Methley Joint. *See* Great Northern.												
Lancashire and Yorkshire and Lancashire Union Joint Line.	12 31	—	Cherry Tree Junction.	Chorley Junction	12 31	—	—	—	- - -	- - -		—
	0 48	—	Spring Wood Junction.	Huddersfield -	0 48	—	—	—	- - -	- - -		—
Lancashire and Yorkshire and Great Northern Railway.	0 43	—	Leeds Joint -	- - -	0 43	—	—	—	- - -	- - -		—
Halifax High Level, *see* Great Northern.												
Total -	56 2	7 74			56 2	—	—	—				—
LISKEARD AND CARADON.	—	6 74	- - -	- - -	—	—	—	—	- - -	- - -		—
LONDON AND NORTH WESTERN.	1,436 53	309 42	Euston - -	Stafford - -	133 40	—	—	—	- - -	- - -		—
			Roade Junction -	Rugby - - -	25 12							
			Kentish Town Junction.	Willesden (Harlesden Junction).	4 53							
			Harlesden Junction.	North Pole Junction.	1 14							
			Willesden High Level Junction.	Acton Wells Junction (North and South - West Junction Railway).	0 56							
			Kensal Green Junction.	Willesden (No. 2 Cabin).	0 26							
			Willesden (No. 1 Cabin).	Willesden (Mitre Bridge Junction).	0 27							
			Watford - -	St. Albans -	—	7 0						
			Watford - -	Rickmansworth -	—	4 40						
			Cheddington -	Aylesbury - -	—	7 20						
			Leighton - -	Dunstable -	7 0							
			Bletchley -	Oxford - -	31 40							

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

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		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
										6 74	12 30¾	
										c 3		
- - - -		—	—	—	- - -	- - -	—	—	—	—	—	
- - - -		—	—	—	- - -	- - -	—	—	—	—	—	
- - - -		—	—	—	Preston - -	Longridge - -	—	—	7 74	—	—	
- - - -		—	—	—	- - -	- - -	—	—	—	—	—	
- - - -		—	—	—	- - -	- - -	—	—	—	—	—	
- - - -		—	—	—	- - -	- - -	—	—	—	—	—	
							—	—	7 74			
- - - -		—	—	—	Moorswater -	Looe - -	6 74	—	—	—	12 5	
- - - -		—	—	—	Wolverton -	Newport Pagnell -	3 70	—	—	—	--	
					Harlesden Loop Line - - -		—	—	—	—	1 3	Double.
					Queen's Park -	Kilburn Up Loop	—	—	—	--	0 55	Single.
					Willesden Low Level Loops - -		—	—	—	—	1 32	Double.
					Willesden (Brent Junction).	Willesden, No. 8, High Level Loops.	—	—	—	—	0 64	„
					Willesden (Brent Junction).	Willesden, No. 8, Auxiliary Loops.	—	—	—	—	1 32	„
					Heyford Loop Lines - - -		—	—	—	—	0 60	„
					Gayton Down Loop Line - -		—	—	—	—	0 39	Single.
					Gayton Up Loop Line - - -		—	—	—	—	0 37	„
					Rugby (Clifton Road Bridge).	Hillmorton (Up Loop Line).	—	—	—	—	1 50	„
					Rugby „ -	Hillmorton (Up Northampton Loop Line).	—	—	—	—	1 50	„
					Rugby „ -	Leamington Junction Loop.	—	—	—	—	1 16	„
					Amington Down Loop Line - -		—	—	—	—	0 56	„

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			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*											
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
LONDON AND NORTH-WESTERN—*continued.*			Verney Junction -	Banbury - -	—	—	—	21 39			
			Bletchley - -	Bedford - -	16 0						
			Bedford - -	Sandy - -	—	—	—	8 40			
			Sandy - -	Cambridge -	21 20						
			Nuneaton -	Blaby Junction -	15 40						
			Weedon - -	Daventry - -	—	4 0					
			Blisworth -	Peterborough -	47 21						
			Duston (West Junction).	Market Harboro'	18 43						
			Rugby - -	Yarwell Junction, Wansford.	43 21						
			Northampton (Bridge Street Junction).	Duston (North Junction).	0 20						
			Seaton - -	Luffenham -	3 60						
			Rugby - -	Stafford, viâ Stour Valley.	57 14						
			Coventry - -	Nuneaton - -	9 61						
			Dudley Port -	Sedgley Junction	0 33						
			Birmingham (Proof House Junction).	Pleck Junction (Bescot Loop).	9 35						
			Aston - - -	Lichfield, viâ Sutton Coldfield.	13 56						
			Bescot Junction -	Wednesbury Junction (Bescot Curve).	0 35						
			Bescot Junction -	Bushbury - -	6 60						
			Dudley - -	Wichnor - -	23 46						
			Walsall - -	Rugeley, Trent Valley.	14 27						
			Aston (Stechford Junction).	Stechford - -	2 60						
			James Bridge Junction.	Pleck Junction -	1 12						
			Bloomfield Junction.	Wednesbury (Prince's End Junction).	2 76						
			Tipton Curve Junction.	Tipton (Stour Valley).	0 18						
			Rugby - -	Berkswell Junction.	24 57						
			Kenilworth Junction.	Coventry - -	—	—	—	3 78			
			Portobello Junction.	Heath Town Junction.	1 24						
			Perry Barr Station Junction.	Soho Soap Works Junction.	2 66						
			Perry Barr North Junction.	Handsworth Junction.	0 6						
			Soho East Junction.	Harborne Junction.	0 21						
			Stafford - -	Euxton Junction	70 9						
			Kenyon Junction	Edgehill Junction	16 58						
			Huyton Junction	Spring's Branch Junction.	12 62						
			Spring's Branch Junction.	Roe Green Junction.	9 76						
			Weaver Junction	Lime Street -	18 79						
			Broadheath -	Ditton Junction -	18 20						
			Widnes - -	St. Helen's - -	6 40						
			Edgehill - -	Canada Dock -	4 53						
			Alexandra Dock Junction.	Alexandra Dock -	1 11						
			Halton Junction	Frodsham Junction.	1 53						
			Preston Junction	Golborne Junction.	0 52						
			Winwick Junction	Earlestown Junction.	1 37						
			Ince Moss Junction.	Platt Bridge Junction.	0 43						
			Kenyon Junction	Tyldesley - -	5 20						
			Pennington -	Bolton - -	8 25						
			Atherton Junction	Chowbent West Junction.	0 20						
			Atherton Junction	Chowbent East Junction.	0 20						

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

- - Worked by Telegraph.					Single Lines of Railway (not included in the foregoing Columns), (1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or portions thereof at one and the same time; or (2.) Worked under the Train Porter System; or (3.) Worked under the Train Staff System.						Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only.*	Remarks.
Not on either of the foregoing Systems.							Distance of					
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.) With Tickets.	Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
					Leighswood Junction.	Aldridge Colliery	—	—	—	—	2 40	Single.
					Norton Junction -	Norton Crossing -	—	—	—	—	2 60	Double.
					Norton Crossing -	East Cannock Junction.	—	—	—	—	3 0	Single.
					Hawkesbury Lane	Wyken Colliery -	—	—	—	—	0 70	„
					Griff Junction -	Stanley's Colliery	—	—	—	—	1 49	„
					Soho Road -	Soho Pool - -	—	—	—	—	0 51	„
					Aston Junction -	Windsor Street -	—	—	—	—	1 0	Double.
					Littleworth Junction.	Cross Keys Junction.	—	—	—	—	0 44	Single.
					Wolverhampton (Crane Street Junction Box).	Wolverhampton (Culwell Street Box).	—	—	—	—	0 34	Double.
					Burton (Stretton Junction).	Burton (Shobnall Road Junction).	—	—	—	—	1 79	„
					Darlaston Junction, Wednesbury.	Portway Crossing	—	—	—	—	0 39	Single.
					Portway Crossing	Rose's Siding -	—	—	—	—	0 16	Double.
					Rose's Siding -	Darlaston Steel and Iron Company's Siding.	—	—	—	—	1 15	Single.
					Darlaston Steel and Iron Company's Siding.	Falling's Heath -	—	—	—	—	0 27	Double.
					Falling's Heath -	James Bridge Junction.	—	—	—	—	0 20	„
					Pemberton Junction.	Brynn Junction -	—	—	—	—	4 11	„
					Spring's Branch -	- - -	—	—	—	—	3 65	„
					Wapping Tunnel -	- - -	—	—	—	—	1 49	„
					Waterloo Tunnel -	- - -	—	—	—	—	2 62	„
					Widnes (Carter House Junction).	Widnes (West Deviation Junction).	—	—	—	—	1 0	„

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under								
			Worked by Telegraph - - - - - - - -								
			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*											
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
LONDON AND NORTH-WESTERN—*continued.*			Northwich - -	Sandbach - -	—	—	—	9 20			
			Rainford Junction	Rainford Village -	—	1 0					
			Rainford Village -	Gerrard's Bridge Junction.	3 11						
			St. Helen's Junction.	Sutton Oak Junction.	0 40						
			Timperley Junction.	Broadheath Junction.	0 25						
			Allerton (Garston Junction).	Garston Junction with Cheshire Lines.	1 1						
			Winsford Junction	Over and Wharton Station.	1 0						
			Hartford Junction	Greenbank Junction.	0 68						
			Walton Junction	Arpley Junction -	1 5						
			Fir Tree House Junction.	Haigh Junction -	5 19						
			Bamfurlong Junction.	Amberswood West Junction.	1 17						
			Standish Junction	Whelley Junction	1 20						
			Bickershaw Junction.	Strangeways East	0 50						
			Kenyon Junction	Manchester (Exchange Station).	12 66						
			Eccles Junction -	Bolton - -	8 0						
			Crewe - - -	Manchester, London Road.	81 0						
			Cheadle Hulme -	Macclesfield -	9 45						
			Buxton - -	Edgeley Junction	18 66						
			Edgeley Junction	Northenden Junction.	3 0						
			Heaton Norris Junction.	Guide Bridge -	5 35						
			Denton Junction	Crowthorn Junction.	1 18						
			Denton Junction	Dukinfield - -	1 26						
			Droylsden - -	Ashton Moss Junction.	2 0						
			Stalybridge - -	Heaton Lodge -	21 43						
			Greenfield -	Mumps Junction	3 68						
			Thornhill Junction	Leeds (Copley Hill).	10 0						
			Wortley Junction	Leeds (Canal Box).	1 0						
			Bradley Wood -	Bradley Junction	1 17						
			Davenport Junction.	Cheadle Village Junction.	0 73						
			Kirkburton Junction.	Kirkburton -	—	4 26					
			Birstall Junction	Birstall Station -	—	1 71					
			Middlewood Curve - - -		0 33						
			Delph Junction -	Delph Station -	—	1 51					
			Stalybridge - -	Diggle - -	7 67						
			Preston - -	Carlisle - -	89 54						
			Oxenholme - -	Windermere - -	10 20						
			Low Gill Junction	Ingleton - -	18 72						
			Morecambe South Junction.	Morecambe -	1 71						
			Bare Lane - -	Hest Bank - -	—	1 32					
			Lancaster - -	Glasson Dock -	—	4 75					
			Whitehaven -	Maryport Level Crossing.	12 14						
			Workington (Derwent Junction).	Cockermouth Junction.	7 54						
			Crewe - -	Holyhead - -	105 24						
			Mold Junction -	Denbigh - -	25 79						
			Padeswood - -	Coppa Siding -	0 20						
			Coed Talon -	Pryddyn Junction	—	4 22					
			Denbigh - -	Corwen - -	—	18 58					
			Foryd Junction -	Denbigh Junction	—	9 1					
			Llandudno Junction.	Llandudno - -	3 14						

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

- - Worked by Telegraph.

Not on either of the foregoing Systems.

From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.
		m. ch.	m. ch.	m. ch.

Single Lines of Railway (not included in the foregoing Columns),
(1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or portions thereof at one and the same time; or
(2.) Worked under the Train Porter System; or
(3.) Worked under the Train Staff System.

From	To	Distance of: System as above. (1.)	Train Porter System. (2.)	Train Staff System (3.) With Tickets.	Train Staff System (3.) Without Ticket.	Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only*	Remarks.
		m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
Parkside - -	Lowton Junction	—	—	—	—	0 20	Double.
Ravenhead Branch -	- -	—	—	—	—	1 40	Single.
Pocket Nook Branch -	- -	—	—	—	—	0 60	„
Broad Oak Branch -	- -	—	—	—	—	0 20	„
Haydock Junction	Old Fold - -	—	—	—	—	1 0	„
Havannah Branch -	- -	—	—	—	—	1 26	„
Moss Hall Branch -	- -	—	—	—	—	0 65	„
Dallam Branch -	- -	—	—	—	—	0 60	„
St. Helen's Junction.	Sutton Bank Clock Face.	—	—	—	—	0 60	„
Runcorn Dock Branch -	-	—	—	—	—	1 79	„
Diggles Junction	Diggles Siding -	—	—	—	—	1 0	„
Sutton Oak Junction.	Carr Mill Junction	—	—	—	—	3 25	Double.
Edge Lane Junction.	Olive Mount Junction.	—	—	—	—	0 44	„
Speke Junction -	Garston Junction	—	—	—	—	0 70	„
Garston Dock Branches	-	—	—	—	—	1 76	Single.
Bickershaw Junction.	Pennington Junction.	—	—	—	—	3 37	Double.
Edgehill Circular Lines	- -	—	—	—	—	1 20	„
Edgehill (Pighue Lane).	Exhibition Sidings Junction.	—	—	—	—	0 30	„
Huyton Quarry -	Halsnead Colliery	—	—	—	—	0 40	Single.
Earlestown (Liverpool Junction).	Earlestown (Viaduct).	—	—	—	—	0 20	„
Ince Moss - -	Bamfurlong Sidings.	—	—	—	—	0 40	Double.
Tyldesley No. 1 -	Hough Lane -	—	—	—	—	0 62	Single.
Bamfurlong Sidings.	Platt Bridge Junction.	—	—	—	—	0 20	Double.
Do.	Fir Tree - -	—	—	—	—	0 20	Single.
Wortley Junction	Farnley Iron Works.	—	—	—	—	1 0	„
Hindlow - -	Cromford - -	—	—	—	—	21 0	„
Little Hulton Mineral Branch	-	—	—	—	—	1 11	„
Patricroft -	Molyneux Junction.	—	—	—	—	3 43	Double.
Maryport Dock Junction.	Maryport Dock -	—	—	—	—	0 70	Single.
Holyhead - -	Holyhead Pier -	1 5					
Foryd - -	Foryd Pier - -	—	—	—	—	0 61	Single.
Coppa Siding -	Coed Talon - -	—	—	—	—	2 16	„
Coed Talon - -	End of London and North-Western Line on Ffrith Branch.	—	—	—	—	1 13	„
Junction with Ffrith Branch.	Junction with Mold and Trydyn Branch.	—	—	—	—	0 26	Single.
Prestatyn -	Dyserth - -	—	—	—	—	2 69	„
Pen-y-groes -	Nantlle -	—	—	—	1 34		
Penrhyn Junction	Port Penrhyn -	—	—	—	—	1 22	„

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under								
			Worked by Telegraph								
			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*											
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
LONDON AND NORTH-WESTERN—*continued.*			Llandudno Junction.	Blaenau Festiniog	—	27 27					
			Bangor - -	Bethesda - -	—	4 22					
			Menai Bridge -	Carnarvon Quay Junction.	7 57						
			Carnarvon Quay Junction.	Llanberis - -	—	8 33					
			Carnarvon Quay Junction.	Afonwen - -	—	18 0					
			Gaerwen - -	Amlwch - -	—	17 46					
			Crewe (Salop Junction).	Shrewsbury (Crewe Junc.).	32 26						
			Whitchurch (Chester Junction).	Tattenhall Junction (Crewe and Chester Line).	14 15						
			Wellington Junction (East).	Stafford S. U. Junction.	18 32						
			Hadley Junction -	Coalport - -	—	7 63					
			Abergavenny Junction.	Nantybwch - -	18 74						
			Rhymney Bridge -	Morlais Junction	4 23						
			Penywern Junction.	Dowlais, Ivor Junction.	0 14						
			Brynmawr -	Garndiffraith Junction.	—	7 69					
			Garndiffraith Junction.	Abersychan (Junction with London and North-Western and Great Western Joint Line	0 19						
			Ebbw Vale Junction.	Ebbw Vale -	—	—	—	1 40			
			Nantybwch - -	Sirhowy - -	—	—	—	1 20			
			Sirhowy - -	Tredegar (South End).	—	0 73					
			Tredegar (South End).	Nine Mile Point -	13 33						
			Tredegar Junction (London and North-Western).	Tredegar Junction (Great Western Railway).	0 17						
			Craven Arms -	Knighton - -	12 17						
			Knighton - -	Llanbister Road -	—	—	—	9 32			
			Llanbister Road -	Penybont Junction.	6 8						
			Penybont Junction.	Penybont - -	—	—	—	0 44			
			Penybont - -	Llandrindod -	3 42						
			Llandrindod -	Llandovery - -	—	—	—	27 37			
			Pontardulais -	Gowerton - -	—	—	—	5 3			
			Gowerton - -	Llanmorlais -	—	5 1					
			Gowerton - -	Swansea - -	7 27						
			Abergwilli Junction.	Carmarthen Valley Junction, Llandilo.	—	—	—	13 25			
					1,284 77	167 10	—	101 58			
			Two extra lines—								
			Camden -	Roade - -	58 40						
			Stafford - -	Crewe - -	24 4						
			Huyton Quarry -	Liverpool, Lime Street.	5 53						
			Widnes - -	Wavertree Junction.	2 46						
			Bamfurlong Junction.	Golborne Junction	3 48						
			Ince Moss Junction.	Carr Mill Junction.	5 0						
			Hillhouse - -	Heaton Lodge -	3 14						
			Longsight - -	Heaton Norris -	3 15						
			Heaton Norris Junction.	Denton Junction -	4 22						
			Heaton Norris (No. 3 Box).	Stockport (No. 2 Box).	0 47						
			Stockport - -	Edgeley Junction	0 26						
			Cross Lane -	Barton Moss -	4 2						
			Ardwick - -	Hyde Road -	0 43						

OF OTHER RAILWAYS WORKED BY THEM.

the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

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From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of System as above. (1.)	Distance of Train Porter System. (2.)	Distance of Train Staff System. (3.) With Tickets.	Distance of Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
					Waenavon -	Waenavon Colliery.	—	—	—	—	0 60	Single.
					Blaenavon -	Varteg Hill Colliery.	—	—	—	—	1 44	"
					Brynmawr - -	Nantyglo - -	—	—	—	—	1 35	"
					Cwm Bargoed Junction.	Engine Shed Siding (Cwm Bargoed Branch).	—	—	—	—	0 52	"
					Dowlais Top (L. & N.W.).	Dowlais Top (B. & M.).	—	—	—	—	0 15	"
					Three extra lines— Crewe North Junction.	Crewe Coal Yard -	—	—	—	—	0 45	
					Bamfurlong Junction.	Spring's Branch Junction.	—	—	—	—	1 8	
					Two extra lines— Crewe North Junction.	Sydney Bridge -	—	—	—	—	1 13	
					Warrington Station.	Winwick Junction	—	—	—	—	3 47	
					Platt Bridge Junction.	Spring's Branch -	—	—	—	—	0 74	
					Coppull Station -	Darlington's Siding.	—	—	—	—	0 25	
					Spring's Branch Junction.	Wigan (Canal Box).	—	—	—	—	0 68	
					Sutton Oak Junction.	Clock Face Sidings	—	—	—	—	1 0	
					Sutton Oak Junction.	St. Helen's Junction.	—	—	—	—	0 40	
					Pocketnook Junction.	St. Helen's Station.	—	—	—	—	0 16	
					Hyde Road -	Ardwick - -	—	—	—	—	0 43	
					Hillhouse No. 1 -	Hillhouse No. 2 -	—	—	—	—	0 20	
					Chelford Up and Down Loops - -		—	—	—	—	0 69	
					Diggle Up and Down Loops - - -		—	—	—	—	0 23	
					Eccles Junction and Patricroft Up and Down Loops.		—	—	—	—	0 32	
					Eccles Junction and Monton Green Up and Down Loops.		—	—	—	—	0 59	
					Buxton - -	Hindlow - -	—	—	—	—	3 40	
					One extra line— Dudley Port -	Dudley - -	—	—	—	—	1 9	
					Basford Wood -	Crewe South Junction.	—	—	—	—	0 60	
					Hartford Station -	Hartford Junction.	—	—	—	—	0 69	
					Ince Moss Junction.	Spring's Branch Junction.	—	—	—	—	0 35	
					Lea Green -	Rainhill - -	—	—	—	—	1 5	
					Top of Whiston -	Point west of Rainhill.	—	—	—	—	0 27	
					Wigan Canal Box	Wigan Station -	—	—	—	—	0 50	
					Adswood - -	Edgeley Junction	—	—	—	—	0 76	
					Huddersfield -	Hillhouse (Fifth line).	—	—	—	—	0 30	
					Ashbridge - -	Jubilee Sidings, No. 1 Loop.	—	—	—	—	0 66	
					Ashbridge - -	No. 2 Loop -	—	—	—	—	0 38	
					Jubilee Sidings -	Heaton Norris (No. 2 Box).	—	—	—	—	0 19	
					Jubilee Sidings -	Heaton Norris (No. 1 Box).	—	—	—	—	0 36	
					Heaton Norris (No. 2 Box).	Heaton Norris (No. 3 Box).	—	—	—	—	0 15	
					Stockport (No. 1 Box).	Edgeley Junction (No. 2 Box).	—	—	—	—	0 20	

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under									
			Worked by Telegraph									
			On the Absolute Block System.							On the Permissive Block System.		
						Distance of Single Line.						
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.		From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*												
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.				m. ch.
LONDON AND NORTH-WESTERN—*continued.*			Cross Lane -	Ordsall Lane -	1 0							
			Ordsall Lane -	Manchester Exchange Station.	1 0							
			Golcar - -	Hillhouse - -	3 41							
			Golcar - -	Marsden - -	4 41							
			One extra up line— Nuneaton - -	Rugby - -	—	—	14 20					
Joint Lines.					1,417 39	167 10	14 20	101 58				
Whitehaven, Cleator, and Egremont.			Whitehaven, Mirehouse Junction.	Marron Junction -	15 69							
			Moor Row Junction.	Gutterby -	—	1 4						
			Egremont - -	Sellafield - -	—	5 16						
			Gutterby -	Egremont - -	1 27							
			Parton -	Distington - -	—	3 0						
London and North-Western and Great Western.			Abersychan and Talywain (Junction with London and North-Western Railway).	Abersychan and Talywain (Junction with Great Western Railway).	0 27							
Rhymney Joint Railway.			Nantybwch - -	Rhymney Bridge	1 51							
			Rhymney Bridge -	Rhymney - -	—	—	—	1 41				
Merthyr Extension Joint Line.			Morlais Junction	Rhydycar Junction.	—	4 61						
			Lines worked.									
Harborne Railway.			Harborne Junction.	Harborne - -	—	2 35						
Harrow and Stanmore Railway. Dundalk and Greenore. *See* Ireland.			Harrow - -	Stanmore - -	—	2 8						
Grand Total -	1,436 53	309 42			1,436 53	185 54	14 20	103 19				
LONDON AND NORTH-WESTERN AND GREAT WESTERN JOINT.	111 63	45 61	Shrewsbury (Crewe Junction).	Dinmore (North end of Tunnel).	42 49	—	—	—				—
			Dinmore Station	Hereford (South end of Station).	7 39							
			Hereford (Rotherwas Junction).	Hereford (Redhill Junction).	2 10							
			Woofferton Junction.	Tenbury - -	—	—	—	5 4				
			Shrewsbury (English Bridge Junction).	Shrewsbury (Abbey Foregate Junction).	0 26							
			Shrewsbury (Sutton Bridge Junction).	Cruckmeole Junction.	4 52							
			Shrewsbury (Severn Bridge Junction).	Wellington (Stafford Junction).	10 52							
			Cruckmeole Junction.	Minsterley - -	—	4 48						
			Cruckmeole Junction).	Buttington - -	—	—	—	11 50				
			Chester Tunnel Box.	Walton Junction	17 28							
			Chester - -	Birkenhead (Woodside).	15 25							
			Hooton - -	Helsby - - -	8 74							
			Hooton - -	West Kirby -	—	12 0						
			North Pole Junction.	Kensington, Earls Court Junction.	2 28							
			Llandovery -	Llandilo - -	—	—	—	11 8				
	111 63	45 61			111 63	16 48	—	27 62				
LONDON AND NORTH-WESTERN AND MIDLAND.* (Ashby and Nuneaton Joint Line.)	19 45	5 45	Coalville - -	Shackerstone Junction.	0 46	—	—	5 45				—
			Moira - -	Nuneaton - -	18 79							
					19 45	—	—	5 45				

* Inserted from the Return made by the Midland Railway Company.

OF OTHER RAILWAYS WORKED BY THEM.

the Head applicable, each Main Line or Portion of Main Line or Branch so worked.)

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From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of: System as above. (1.)	Distance of: Train Porter System. (2.)	Distance of: Train Staff System. (3.) With Tickets.	Distance of: Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
					Mowbray Junction, Frizington.	Mowbray	—	—	—	—	0 58	Single.
					Bigrigg Junction	Pallaflat and Bigrigg.	—	—	—	—	2 1	„
					Moor Row, Crossfield Junction.	Cleator Moor, Birks Bridge.	—	—	—	—	1 1	„
					Distington	Ullock Junction	—	—	—	—	4 32	„
					Gilfoot Branch		—	—	—	—	0 57	„
					Eden Valley Branch		—	—	—	—	0 40	„
					Eskett Branch		—	—	—	—	0 25	„
					London and North-Western and Brecon and Merthyr Joint— Rhydycar	Taff Vale Junction (Merthyr).	—	—	—	—	0 51	„
							4 75	—	—	1 34	144 52	
		—	—	—	Ludlow	Clee Hill	—	—	—	—	6 0	* Double line and worked on the absolute block telegraph system.
					Dinmore (North end of Tunnel).	Dinmore Station	0 67					† Worked by gong communication.
					Birkenhead (Green Lane Junction).	Birkenhead (Monks Ferry).	—	—	—	0 44		
					Birkenhead (Green Lane Junction).	Birkenhead (Brook Street Junction).	—	—	—	—	*0 61	‡ Worked on permissive block system.
					Birkenhead (Brook Street).	Birkenhead (Canning Street South).	—	—	—	—	†0 13	*Note.*—Wellington, Hereford (goods lines), Leominster, Ludlow, Tenbury, Craven Arms, Shrewsbury, and Chester Stations are included in the distances worked by telegraph on the "absolute block system," although actually worked by "gong communication and other systems."
					Birkenhead (Brook Street).	Birkenhead (Cathcart Street).	—	—	—	—	†0 30	
					Brymbo Junction	Coed Talon Junction.	—	—	—	—	2 67	
					Ledsham (Station Box).	Ledsham (Sand Siding Box).	—	—	—	—	‡0 51	
							0 67	—	—	0 44	10 62	
		—	—	—			—	—	—	—	—	

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under Worked by Telegraph - - - - - - - -									
			On the Absolute Block System.						On the Permissive Block System.			
						Distance of Single Line.						
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*												
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
LONDON AND SOUTH-WESTERN.	637 35	211 21	Waterloo - -	Southampton -	78 60	—	—	—	- - -	- -	—
			Southampton -	Dorchester - -	62 20						
			Dorchester - -	Weymouth -	7 0						
			Ringwood - -	Christchurch -	—	8 60					
			Woking Junction	Salisbury - -	32 40						
			Salisbury - -	Yeovil - -	39 20						
			Yeovil - -	Exeter - - -	50 20						
			Sidmouth Junction	Sidmouth - -	—	8 20					
			Cowley Junction	Yeoford Junction	9 0						
			Queen Street -	St. Davids - -	0 40						
			Yeoford Junction	Copplestone - -	2 40						
			Copplestone -	Umberleigh -	—	—	—	18 60			
			Umberleigh -	Barnstaple Pill Bridge.	5 60						
			Barnstaple Pill Bridge.	Torrington - -	—	14 60					
			Barnstaple Junction.	Pottington Crossing.	—	0 60					
			Pottington Crossing.	Ilfracombe - -	14 0						
			Yeoford - -	Lidford - -	24 20						
			Friary, Plymouth	Lidford - -	27 0						
			Woking - -	Godalming - -	10 0						
			Godalming - -	Havant - -	32 0						
			Pirbright Junction	Farnham Junction	7 40						
			Farnham - -	Guildford - -	10 0						
			Staines - -	Wokingham -	17 40						
			Wokingham -	Reading - -	7 0						
			Staines Curve	- - -	0 20						
			Farnham - -	Winchester Junction.	—	—	—	25 40			
			Waterloo - -	Windsor - -	25 0						
			Weybridge - -	Virginia Water -	5 60						
			Kensington -	Richmond - -	6 0						
			Gunnersbury -	Acton Junction -	0 41						
			Bollo Junction -	Acton Lane Junction.	0 28						
			Eastleigh - -	Gosport - -	16 0						
			Gosport - -	Stokes Bay -	1 67						
			Fareham - -	Portsmouth - -	10 20						
			Andover Junction	Redbridge - -	20 40						
			Broadstone Junction.	Poole - -	3 40						
			Poole - - -	Bournemouth -	3 60						
			Bishopstoke -	Salisbury - -	23 20						
			Alderbury Junction.	West Moors - -	—	—	—	22 0			
			Portsmouth - -	Portsmouth Harbour.	1 4						
			Fulwell - -	Shepperton - -	6 0						
			Lymington Junction.	Lymington Pier -	—	6 0					
			St. Deny's - -	Fareham - -	—	11 60					
			Seaton Junction -	Seaton - -	—	4 20					
			Exmouth Junction	Exmouth - -	—	9 0					
			Chard Junction -	Chard - -	—	3 0					
			Petersfield -	Midhurst - -	—	—	9 20				
			Ascot Junction -	Frimley - -	—	—	8 71				
			Frimley Junction	North Camp -	—	2 21					
			Botley - -	Bishop's Waltham	—	—	8 70				

OF OTHER RAILWAYS WORKED BY THEM.

the Head applicable, each Main Line or Portion of Main Line or Branch so worked.)

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From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of System as above. (1.)	Distance of Train Porter System. (2.)	Distance of Train Staff System. (3.) With Tickets.	Distance of Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	—	

Railway Company.	Total Length of the Company's Railway open for Passenger Traffic, and of all other Railways open for Passenger Traffic which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under									
			Worked by Telegraph									
			On the Absolute Block System.						On the Permissive Block System.			
						Distance of Single Line.						
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*												
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
LONDON AND SOUTH-WESTERN—*continued.*			Frimley - -	Sturt Junction -	1 14						
			Meldon Junction	Holsworthy - -	—	17 54					
			Ryde, St. John's -	Pier Head - -	1 11						
			Whitton Junction	Hounslow Junction.	0 30						
			Raynes Park -	Leatherhead -	9 40						
			Hampton Court Junction.	Hampton Court -	1 40						
			Wimbledon -	Twickenham -	8 20						
			Wimbledon -	Streatham (including Loop).	5 60						
			Barnes - -	Feltham (viâ Loop).	8 60						
			Worgret Junction	Swanage - -	—	9 71					
			Halwill Junction	Launceston -	—	13 60					
			Hampton Court Junction.	Guildford - -	16 44						
			Leatherhead -	Effingham Junction.	4 5						
			Farnboro' Junction	Frimley Junction	0 26						
			Brockenhurst -	Christchurch -	10 20						
			Bournemouth E.	Bournemouth West Junction.	2 45						
			Hamworthy Junction.	Hamworthy -	1 60						
			Fullerton - -	Hurstbourne -	7 20						
			East Putney -	Wimbledon -	2 60						
			Boscarne Junction	Wadebridge -	—	5 4					
			Launceston -	Tresmeer - -	—	8 0					
					637 35	123 0	22 1	66 20			
LONDON, BRIGHTON, AND SOUTH COAST.	340 0	121 20	- - The whole line - -		340 0	121 20	—	—	- - -	- - -	—
LONDON, CHATHAM, AND DOVER.	180 12½	10 22½	London - -	Dover, Ramsgate, Sheerness, and Chatham Dockyard.	120 10½	10 5½	0 17*	—	- - -	- - -	—
			Peckham and Loughboro Loop.	Crystal Palace -	4 58						
			Nunhead - -	Greenwich -	2 24						
			Swanley Junction	Sevenoaks - -	9 11						
			Otford Junction -	Maidstone - -	15 20						
Dover and Deal Joint Line, *see* page 14.			Maidstone -	Ashford - -	19 2						
			Fawkham Junction.	Gravesend -	4 67						
			Shortlands - -	Nunhead - -	4 60						
					180 12½	10 5½	0 17				
LONDONDERRY -	6 0	—	- - -	- - -	—	—	—	—	- - -	- - -	—
LONDON, TILBURY, AND SOUTHEND.	64 21	10 42	Gas Factory Junction.	Shoeburyness -	42 74	—	—	—	- - -	- - -	—
			Barking West Junction.	Forest Gate Junction.	1 43						
			North Woolwich Loop - -		0 23						
			Tilbury Loop - - -		0 26						
			Barking East Junction.	Pitsea - -	18 79						
			Ockenden Branch - - -		—	—	—	6 55			
					64 5			6 55			
MACCLESFIELD COMMITTEE.	10 70	—	Marple Junction -	Macclesfield Junction.	10 70	—	—	—	- - -	- - -	—
MANCHESTER AND MILFORD.	—	41 0	Pencader - -	Aberystwith -	—	41 0	—	—	- - -	- - -	—

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

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From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of System as above. (1.)	Distance of Train Porter System. (2.)	Distance of Train Staff System. (3.) With Tickets.	Distance of Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	—	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	1 20	Faversham to Faversham Creek. * This section is at Dover, and trains are worked on it by telegraph signals and hand signals combined.
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	1 0	Single line.
Stanford-le-Hope Junction.	Thames Haven.	0 16	3 67	—	- - -	- - -	—	—	—	—	0 25	Whitechapel Goods Branch.
		0 16	3 67									
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	—	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	—	

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						Distance of Single Line.					
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ENGLAND AND WALES—*continued.*											
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE.	297 26½	3 12	Ardwick Joint Junction.	StockportJunction	4 17	—	—	—	Stockport Junction.	Ashton Junction.	0 16½
			Fairfield Junction	Chorlton Junction	6 31						
			Gorton Junction -	Hyde Road Junction.	0 45				Sheffield No. 5 Box.	No. 6 Box, Sheffield.	0 28
			Ashton Junction	Sheffield No. 5 -	36 10						
			Woodhouse Junction.	Chesterfield - -	11 51						
			Sheffield No. 6 -	New Holland Pier Box.	66 68						
			New Holland Box.	Barton Junction	0 11						
			Barton Junction	Barrow Road Crossing.	0 10						
			Dinting, East -	Dinting, South -	0 14						
			Dinting, West -	Glossop -	1 3						
			Glazebrook Junction.	Wigan Central -	11 74						
			Clarboro' Junction	Sykes Junction -	8 22						
			Brocklesby - -	Wellowgate -	9 56						
			Wellowgate - -	Garden Street, Grimsby.	0 13						
			Garden Street Junction.	Cleethorpes Up Home-signal.	3 9						
			Doncaster (Marsh Gate).	Wrawby Junction	33 17						
			Thorne Junction	Thorne, North-Eastern.	1 18						
			Barnsley Junction	Barnsley - -	6 46						
			Houghton Main Branch - -		3 6						
			Pindar Oaks -	Doncaster - -	15 15						
			Woodburne Junction.	Mexbro' No. 2 -	10 26						
			Mexbro' Curve - - -		0 14						
			Tinsley Junction	Aldam Junction -	11 53						
			Aldam Curve - - -		0 56						
			Wath Curve - - - -		0 68						
			Darnall Curve - - -		0 49						
			Retford Curve - - - -		0 43						
			Swinton Branch - - -		0 38						
			Old Oaks Junction, Barnsley.	Nostell, North -	9 11						
			Wintersett Junction.	Nostell, South -	0 33						
			Huddersfied Junction.	Willey Bridge -	1 0						
			Tinsley, East -	Tinsley, West -	0 23						
			Oakwell Junction	Stairfoot Junction	1 7						
			Wrawby Junction	Lincoln Goods -	28 71						
			Chester, East -	Hawarden, South	6 64						
			Guide Bridge -	Stalybridge, Victoria Junction.	1 76						
					294 48						0 44½
MANCHESTER, SOUTH JUNCTION, AND ALTRINCHAM.	9 20	—	London Road -	Bowdon - -	8 70	—	—	—	- - -	- - -	—
			Castlefield Junction.	Ordsall Lane -	0 30						
					9 20						
MARYPORT AND CARLISLE.	27 73	13 34	Maryport - -	Carlisle Station -	27 73	—	—	—	- - -	- - -	—
			Bulgill - -	Brigham - -	—	—	—	6 13			
			Aspatria - -	Mealsgate - -	—	—	—	4 0			
					27 73	—	—	10 13			

OF OTHER RAILWAYS WORKED BY THEM.

the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

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		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
Cleethorpes Junction.	End of Dock Line.	0 32	—	—	Barton Junction -	Barton - - -	—	—	—	3 12	46 68	
Cleethorpes Up Home signal.	End of Terminal platform.	0 13										
Cleethorpes Up Home signal.	End of Bay sidings.	0 26										
New Holland Pier Box Up Home signal.	End of Bay sidings.	0 13½										
Barton Junction Box.	Commencement of Barton Branch single line working.	0 20										
Wigan Station Box Down Home signal.	End of Bay sidings.	0 15										
Chesterfield Station Box Up Home signal.	End of Bay sidings.	0 9										
Victoria Junction Box, Stalybridge.	L. & N.W. and M.S. & L. Station Box.	0 15										
Midland Station Box, Lincoln (M.S. & L. Boundary)	M.S. & L. Box.	0 10										
L. & Y. Box (M.S. & L. Boundary)	Jumble Lane Box, Barnsley.	0 8										
London Road, Manchester (L. & N.W. Boundary)	End of M. S. & L. Bay sidings.	0 12½										
		2 13½					—	—	—	3 12	46 68	
- - - - - -		—	—	—	- - -	- - -	—	—	—	—	0 54	
- - - - - -		—	—	—	Mealsgate - -	Aikbank Junction	3 2	—	—	—	—	
											1 5	
							3 2				1 5	

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ENGLAND AND WALES—*continued.*													
MAWDDWY - -	m. ch. —	m. ch. 6 60	- - -	- - -	m. ch. —	m. ch. —	m. ch. —	m. ch. —	- - -	- - -	- - -	m. ch. —	
MERSEY -	4 6	—	Liverpool (James Street).	Commencement of Joint Lines near Green Lane.	2 75	—	—	—	- - -	- - -	- - -	—	
			Hamilton Square	Birkenhead Park	1 11								
Joint line -	0 16	—	Park Station, S. -	Park Station, N. -	0 16								
	4 22				4 22								
METHLEY JOINT. (*See* Great Northern Railway.)													
METROPOLITAN -	47 46	4 1	Aldgate - -	High Street, Kensington.	7 10	—	—	—	- - -	- - -	- - -	—	
			Baker Street -	Aylesbury - -	38 10								
			Chalfont Road Junction.	Chesham - -	—	—	—	4 1					
			Moorgate Street -	Midland Junction, King's Cross.	2 26								
	47 46	4 1			47 46	—	—	4 1					
METROPOLITAN DISTRICT.	0 11½	—	Whitechapel Station (D.R.)	Line A.B. (*See* D.R. Act, 1884).	0 11½	—	—	—	- - -	- - -	- - -	—	
METROPOLITAN AND DISTRICT JOINT.	2 3	—	Line A.B. - -	St. Mary's Junction.	0 4½								
			St. Mary's Junction.	Whitechapel Junction (London Hospital Line).	0 22½								
			St. Mary's Junction.	Aldgate East Junction.	0 38½								
			Aldgate East Junction.	End of Joint Property (N. Curve).	0 1½								
			Aldgate East Junction.	Minories Junction	0 8½								
			Minories Junction	End of Joint Property (Aldgate Station).	0 3½								
			Minories Junction	End of Joint Property (East of Mansion House).	1 3½								
METROPOLITAN DISTRICT.	4 3½	—	End of M. & D. R.'s Eastern Joint, Mansion House.	Commencement of M. & D. R.'s Western Joint, 6·315 ch. West of South Kensington Junction.	4 3½								
METROPOLITAN AND DISTRICT JOINT.	1 10	—	Commencement of M. & D. R.'s Western Joint, South Kensington.	End of M. & D. R.'s Western Joint, 77 links North of High Street Station Platform.	1 10								
METROPOLITAN DISTRICT.	12 43½	1 43½	High Street Junction.	Knaresborough Road Junction.	0 43								
			Commencement of D. R., Gloucester Road.	Putney - -	2 40½								
			B. Box Junction -	A. Box Junction -	0 12								
			Warwick Road Junction.	Studland Road Junction.	1 66½								
			Hammersmith Junction.	Earl's Court Junction.	0 23								
			Turnham Green Junction.	Ealing - -	2 74½								
			Ealing Loop Junction with G.W.R. -		0 8½								
			Mill Hill Park -	Lampton Junction.	4 15½								
			Lampton Junction.	Hounslow Barracks.	—		1 43½						
	19 71½	1 43½			19 71½		1 43½						

OF OTHER RAILWAYS WORKED BY THEM.

the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

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Not on either of the foregoing Systems.												
From	To	Distance of Double Line.	Distance of Single Line.		From	To	Distance of					
			Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.			System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.)			
									With Tickets.	Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
- - -	- - -	—	—	—	Dinas Mawddwy -	Cemmes Road -	6 60	—	—	—	—	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	—	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	—	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	—	

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ENGLAND AND WALES—*continued.*											
MIDLAND - -	m. ch. 982 3	m. ch. 182 73	Carlisle - - via Sheffield.	St. Pancras - -	m. ch. —	m. ch. —	m. ch. —	m. ch. —	- - -	- - -	m. ch. —
			With the following exceptions :—								
			At Normanton - -		0 24						
			„ Sheffield - - -		0 29						
			„ Trent - - -		0 16						
			„ Leicester - - -		0 29						
			Total - -		1 18	307 77					
			Appleby North Curve - -		0 31						
			Hawes Branch - - -		—	5 69					
			Morecambe - -	Settle Junction -	28 59						
			Ingleton - -	Clapham - -	4 18						
			Skipton - -	Ilkley - -	11 62						
			Colne - -	Skipton North Junction.	10 55						
			Bradford - -	Leeds and Bingley Jns., Shipley.	2 73						
			Whitehall Jn. -	Leeds Junction -	0 21						
			Leeds Junction -	Water Lane Jn. -	0 17				*List of Midland Branch Lines worked with single engines, i.e., the line is worked by train staff without tickets, and no engine is allowed to be upon the line unless the driver is in possession of the train staff.*		
			Keighley Station Junction.	Single Line Junction.	0 63						
			Guiseley Junction, Shipley.	Esholt Junction, Guiseley.	3 39						
			Apperley Junction	Burley Junction -	5 69						
			Menston Junction	Milner Wood Jn.	0 65				West Bridge Branch - -		5 77
			Masboro' - -	Tapton Junction -	15 8				Hampton Branch - -		6 47
			Clay Cross North Junction.	Derby Junction, Derby.	19 79				Stroud Branch - - -		1 23
			Cudworth South Junction.	Barnsley Station, Box.	3 42				Dudbridge to Nailsworth -		3 8
			Barnsley Goods Yard.	Court House Junction.	0 15				Dursley Branch - -		2 44
			Cudworth North	West Junction -	0 35						
			Staveley Junction	Seymour Junction	—	—	—	2 47	Thornbury Branch - -		7 23
			Seymour Junction	Pleasley West -	—	—	—	7 60	Hemel Hempstead Branch -		8 33
			„	Creswell Junction	—	—	—	5 55			
			Holmes Junction	Masboro' South Junction.	0 23				Single Line Junction, Keighley to Oxenhope.		4 11
			Rotherham Branch - - -		0 71				Castle Branch (Lancaster) -		0 45
			Derby Junction -	Trent Jn. via Chaddesden Sidings.	9 10				Barnoldswick Branch - -		1 67
			London Road Junction.	Spondon Junction	1 75						
			Derby South Junction.	Derby North Junction.	0 23						
			Sawley Junction -	Trent Station North Junction.	1 2				*On the following sections of line, Block Telegraph working is established, but, in order to admit of trains being connected or separated, more than one train is allowed in the section at one time.*		
			Sheet Stores Junction.	Trent Station South Junction.	0 29						
			Chorlton-cum-Hardy Junction.	Heaton Mersey Junction.	4 18						
			Ancoats Junction	Junction with L. and Y. Rly.	0 45						
			New Mills Junction.	Ambergate North Junction.	35 5				Appleby North Junction to Appleby Station Signal Box on up line.		0 22
			Ambergate North Junction.	Ambergate Station Junction.	0 21				Between Hellifield North and South Junctions, up and down lines.		0 17
			Ambergate West Junction.	Ambergate South Junction.	0 32				Skipton Station North Junction and South Signal Box, up and down lines.		0 20
			Buxton Junction	Peak Forest Jn. -	0 30				Shipley, Bradford Junction to Bingley Junction, down line.		0 14
			Buxton - -	Millers Dale Jn. -	4 21				Cudworth North and South Boxes, up and down lines.		0 21
			Little Eaton Jn. -	Butterley Junction	0 29	—	—	8 3	Belle Vue North to Belle Vue South, up line.		0 19
			Ripley Junction -	Heanor Station -	—	—	—	2 59	Between Burton North and South Passenger Station Boxes, up and down lines.		0 27
			Wirksworth Branch - - -		—	—	—	8 39	Mansfield Passenger Station -		0 12
			Trent Station North Junction.	Nottingham Pasgr. Station West.	6 46				Lancaster, between North and South Signal Boxes.		0 11
			London Road Jn., Nottingham.	Lincoln - -	32 69				Clapham Passenger Station, up line.		0 14
			Mansfield Junction, Nottingham.	Shireoaks East Junction.	30 7						
			Woodend Junction	Shireoaks West Junction.	0 45						
			Kirkby Station Junction.	Pye Bridge Junction.	4 62						
			Lenton North Jn.	Lenton South Jn.	0 28						
			Radford Junction	Trowell Junction	4 77						
			Mansfield North Junction.	Rolleston Junction.	0 74	13 56					
			North Erewash Junction.	Long Eaton Junction.	0 27						
			Ilkeston South Jn.	Ilkeston, West Jn.	—	—	0 17				
			Ilkeston West Jn.	Ilkeston Town Jn.	—	0 37					

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

- Worked by Telegraph.

Not on either of the foregoing Systems.

From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.
		m. ch.	m. ch.	m. ch.
Lancaster	Lancaster Castle	—	0 45	
Whitacre	Coleshill	—	1 77	
Between Signal Posts at—				
Leeds		0 24		
Normanton		0 24		
Barnsley		0 15		
Sheffield		0 29		
Derby		0 33		
Trent		0 16		
Leicester		0 29		
Nottingham		0 24		
Gloucester		0 13		
Peterboro'		0 10		
Northampton		0 8		

Single Lines of Railway (not included in the foregoing Columns),
(1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or portions thereof at one and the same time; or
(2.) Worked under the Train Porter System; or
(3.) Worked under the Train Staff System.

From	To	Distance of System as above. (1.)	Distance of Train Porter System. (2.)	Distance of Train Staff System. (3.) With Tickets.	Distance of Train Staff System. (3.) Without Ticket.
		m. ch.	m. ch.	m. ch.	m. ch.
Single Line Junction, Keighley.	Oxenhope	—	—	—	4 11
Coleshill	Hampton	—	—	—	4 50
Desford Junction	West Bridge	—	—	—	5 77
Hemel Hempstead Branch		—	—	—	8 33
Stroud Branch		—	—	—	1 23
Coaley Junction	Dursley	—	—	—	2 44
Dudbridge Junction.	Nailsworth	—	—	—	3 8
Yate Single Line Junction.	Thornbury	—	—	—	7 23

Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only.*	Remarks.
m. ch.	
	Midland.
	Goods Lines.
0 28	Petterill Goods Station Branch.
0 45	Morecambe Pier to Station.
0 47	Hunslet Goods Station Branch.
5 2	Snydale Branches.
0 75	Beighton Curve.
1 27	Killamarsh to Norwood Colliery.
2 4	Killamarsh Branch Junction to Kiveton Park Junction.
0 78	Staveley Junction to Hall Lane Junction.
0 25	Speedwell Branch.
0 44	Seymour Branch.
1 5	Springwell Branch.
1 78	Dunston and Barlow South to Cobnar Wood Junction.
1 16	Cobnar Wood Junction to end of Monkwood Colliery Branch.
1 36	Cobnar Wood Junction to end of Nesfield Colliery Branch.
0 20	Dunston and Barlow North to Junction with Sheepbridge Branch.
0 33	Branch to Chesterfield Canal.
1 27	Sheffield, Wicker Goods Station Branch.
0 57	Sheffield Branch to M. S. & L. Railway.
0 12	Jessop's Branch, Brightside.
0 45	Nunnery Colliery.
1 21	Brampton Branch.
4 4	Portion in use, Avenue Sidings to Pilsley Branch Junction.
0 13	Lings Colliery Branch, North Curve.
0 12	Lings Colliery Branch, South Curve.
0 72	Holmwood Colliery Branch.
0 20	Leeds and Liverpool Canal Co.'s Siding, Embsay.
0 23	Guiseley, Ing's Mill Branch.
0 22	Leeds Forge Company's Branch, Armley.
0 14	Monk Bridge Ironworks Branch, Leeds.
0 30	Hunslet Wagon Works Branch.
0 45	Swinton Ironworks Branch, Kilnhurst.
0 54	Williamthorpe Branch (Junction with Pilsey extension to top of old incline).
0 18	ClayCrossSouth Junction towards No. 4 Pit (part of Williamthorpe Branch).
0 16	Oaks Colliery Jn. to Quarry Jn., M.S.&L.Ry.
0 13	Greasborough Branch (Park Gate Junction to end of Branch).
0 12	West Kiveton Colliery Branch (Killamarsh).
0 44	Glapwell Colliery Branch.
0 2	Nunnery Colliery Branch to M.S. & L. Railway.
0 14	Sheffield, Pond Street Depôt.
0 23	Sheffield, Queen's Road Wagon
2 4	Denaby to Union Sidings.

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under								
			Worked by Telegraph - - - - - - - - -								
			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*											
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			Yards.
MIDLAND—*continued*			Ilkeston North Junction.	Ilkeston West Junction.	0 41				*Sections of Line on which the Midland Railway Company are exempted from establishing the Absolute Block Telegraph System.*		
			Bennerley Jn. -	Basford Junction	5 42						
			Crich Junction -	Codnor Park Jn. -	5 61						
			Ironville Junction	Riddings Junction	0 27						
			Tibshelf South Junction.	Pleasley Junction	8 39			5 35	Morecambe, from Signal Box to end of Excursion Platform.		550
			London Road Junction, Derby.	Bristol - -	126 52				Bradford Station Signal Box to Buffer Stops.		520
			Saltley Junction	Derby Junction -	1 1				Ilkley Signal Box to Buffer Stops.		363
			Melbourne Jn. -	Sheet Stores Jn. -	11 36				Leeds, between Midland Wortley Junction to North Eastern Wortley Junction.		100
			Stenson Junction	Chellaston West Junction.	4 23				Leeds, between Midland Leeds Junction and Joint Station Canal Junction.		195
			Chellaston East Junction.	Melbourne -	1 56				Pontefract, Bay lines - -		150
			Melbourne - -	Ashby - -	—	—	—	9 12	Rotherham Signal Box to Buffer Stops.		255
			Whitacre - -	Nuneaton - -	11 32				Ilkeston Town Signal Box to Buffer Stops.		467
			Water Orton Junction.	North Walsall Junction.	12 43				Lincoln, between Station Signal Box and High Street Crossing.		280
			Litchfield Road Junction.	Rycroft Junction	0 52				Hayfield Signal Box to Buffer Stops.		326
			Park Lane Junction.	Castle Bromwich Junction.	0 67				Buxton Signal Box to Buffer Stops.		300
			Walsall Wood Branch. - -		3 77				Wirksworth Signal box to end of Platform.		274
			Rycroft Junction	Crane Street Jn. -	6 35				Birmingham, between Garrison Lane Junction, Midland, and Gloucester Junction, London and North-Western Railway.		155
			Heath Town Junction.	Wolverhampton, G. W. Rly.	0 37				Broom Junction Platform Line.		100
			New Street Jn. -	King's Norton Jn.	5 16				Ashchurch, between Ashchurch Junction and Tewkesbury Junction.		380
			St. Andrew's Jn.	Garrison Lane Jn.	0 27				Ashchurch, between Ashchurch Junction and Evesham Junction.		355
			Lifford Station Jn.	Lifford West Jn. -	0 25				Ashchurch, between Evesham Junction and Tewkesbury Junction.		434
			Barnt Green Jn. -	Ashchurch Jn. -	12 3	—	—	20 77	Worcester, between Shrub Hill Junction and South Signal Box.		440
			Ashchurch Junction.	Malvern Wells Junction.	13 29				Bristol, St. Philips' Good Station to Buffer Stops.		291
			Tewkesbury Jn. -	Evesham Junction	0 20				Bath Station Signal Box to Buffer Stops.		573
			Barton and Brecon Curve Junction.	Three Cocks Junction.	0 60	—	—	24 71	Brynamman Signal Box to Buffer Stops.		60
			Swansea - -	Brynamman (viâ Morriston).	2 1	5 46	—	11 15	Rugby, between Midland Box and Midland Junction (L. & N.W. Rly.).		280
			Lawrence Hill Junction.	St. Philip's Bristol.	—	—	0 42		Peterborough, between (Midland) Wisbech Junction and Westwood Junction (G. N. Rly.).		173
			Stonehouse - -	Dudbridge Jn. -	0 29	2 20			Northampton, from Signal Box to Buffer Stops.		200
			Yate Main Line Junction.	Yate Single Line Junction.	0 14				Northampton, between Northampton Junction, Midland, and Hardingstone Junction, L. & N.W. Rly.		176
			Mangotsfield North Junction.	Bath - -	10 14				Bedford, Hitchin Branch Junction to Buffer Stops.		170
			Mangotsfield South Junction.	Mangotsfield Stn. Junction.	0 32				Gospel Oak Signal Box to Buffer Stops.		320
			Kingswood Jn. -	Ashley Hill Jn. -	1 50				St. Pancras, St. Pancras Junction to Buffer Stops.		433
			Wagon Works Jn.	Easton Road -	0 18						
			Berkeley Road Junction.	Junction of Sharpness Joint Stn. property.	4 4						
			Wigston North Junction.	Rugby - -	16 79						
			London Road Jn., Nottingham.	Melton Junction	17 35						
			Glendon South Junction.	Manton Junction	15 57						
			Syston South and North Junctions.	Fletton Road Jn., G. E. Rly.	48 14						
			Nene Junction -	Junc. with Great Northern Rly.	0 10						
			Knighton North -	Leicester Jn. -	29 30						
			Knighton South Curve - - -		0 30						
			Woodville Junction.	Swadlincote Jn. (viâ Woodville).	—	7 12					
			Wigston South Junction.	Blaby Junction	0 50						
			Wigston Central Junction Curve -		0 10						
			Branch - -	L. & N. W. Rly., Wellingboro'.	0 60						
			Bedford Junction	Hitchin - -	16 1						
			Addition - -	Kettering and Huntingdon Rly.	—	0 30					
			Oakley Junction -	Northampton Passenger Stn.	20 1						
			Brent South Jn. -	Acton Wells Jn. -	3 77						
			Child's Hill Jn. -	Dudding Hill Jn.	0 67						
			Carlton Road Jn.	Junction Rd. Jn.	0 60						
			Kentish Town Jn.	Highgate Rd. Jn.	0 46						
			St. Paul's Road Junction.	King's Cross -	1 1						
	982 3	182 73			979 18	35 30	0 59	106 73			

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

Worked by Telegraph.					Single Lines of Railway (not included in the foregoing Columns), (1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or portions thereof at one and the same time; or (2.) Worked under the Train Porter System; or (3.) Worked under the Train Staff System.					Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only.*	Remarks.
Not on either of the foregoing Systems.											
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of: System as above. (1.)	Train Porter System (2.)	Train Staff System. (3.) With Tickets.	Train Staff System. (3.) Without Ticket.		

MIDLAND RAILWAY—*Goods Lines—continued.*

m. ch.		m. ch.		m. ch.		m. ch.					
0 15	Branch to Chesterfield Gas Co.'s Works.	0 9	Diminsdale Branch.	0 3	Branch to Bass & Co.'s Shobnall Maltings.	0 27	Lloyd's Branch, Weldon and Corby.				
0 78	Shirland Branch.	0 19	Butcherwood Colliery Branch.	0 14	Tamworth connecting line with L. & N.W. Railway.	0 18	Bagworth Colliery Branch.				
0 23	Branch to Mersey Dock Line.	0 44	Moreton Colliery Branch.	0 21	Glascote North Curve.	0 19	Rawdon Colliery Branch.				
0 11	Liverpool Grain Warehousing Co.'s Branch.	1 0	Lawley Street Goods Station Branch.	0 14	Glascote South Curve.	0 16	Mill Road Goods Branch, Cambridge.				
2 36	Bootle Branch.	4 78	Kingsbury Branch.	0 9	Glascote Branch towards Annington Colliery.	0 26	Heath Park Depôt Branch, Hemel Hempstead.				
0 23	Sandon Dock Branch.	0 34	Branch to New Birch Coppice Colliery.	0 7	Walsall Wood Colliery Branch.	0 18	Finchley Road Junction with Metropolitan Railway.				
1 9	Ancoats Goods Station Branch.	0 35	Nuneaton Abbey Junction to Junction with L. & N.W. Railway.	0 11	Canal Wharf Branch, Wolverhampton.	0 27	Somers Town Branch.				
0 36	Linacre Gas Company's Branch.	3 0	Stockingford Branch.	0 28	Canal Wharf Branch, Saltley.	0 22	Acton Canal Wharf Branch.				
0 21	Curve at Buxton.	0 30	Annesley Colliery Branch.	0 10	Canal Wharf Branch, Lifford.	0 40	West Kensington High Street Coal Drops Branch.				
0 28	Rowsley Goods Station Branch.	1 24	Cannock Chase Colliery Branch.	0 76	Worcester Wharf Branch.	0 25	Kensington High Street Coal Drops Branch.				
0 29	Ripley Goods Station Branch.	0 32	Walsall Goods Station Branch.	0 26	Branch to Cadbury's Works, Stirchley Street.	0 14	Whitecross Street Branch.				
0 69	Heanor Station to Heanor Goods Junction.	0 28	Wolverhampton Goods Station Branch.	0 6	Branch to Midland Goods Depôt, Swansea.	0 9	Walworth Coal Drops Branch.				
0 40	St. Mary's Goods Wharf.	0 77	Lifford Canal Branch.	0 11	Branch towards Prince of Wales' Dock, Swansea.	0 8	Brixton Branch.				
0 20	Wirksworth Station to end of Branch.	0 27	Derby Junction to Garrison Lane Junction.	0 25	Swansea Harbour Branch.	0 24	Wandsworth Branch.				
0 37	Wirksworth Station to bottom of 1 in 5 incline.	0 22	Bordesley Branch.	0 26	Gurnos Canal Wharf Branch.	0 66	Bow Branches.				
0 25	Branch to Bonded Stores, St. Mary's.	0 24	Camp Hill Goods Station Branch.	0 6	Gilwyn Branch.	0 16	West India Docks Branch.				
0 31	Derby Cattle Docks Branch.	0 14	Junction with Great Western Railway, Evesham.	1 4	Yniscedwyn Branch.	0 19	Poplar Docks Branch.				
0 47	Ashton Road Depôt Branch.	0 14	Worcester Goods Station Branch.	0 42	Yniscedwyn Iron Works Branch.	0 30	Thames Wharf Branch.				
0 60	Sutton in Ashfield Branch.	0 61	Tewkesbury Goods Station Branch.	0 22	Ystalyfera Iron Works Branch.	0 10	Branch to Victoria Docks.				
0 23	Mansfield Goods Station Branch.	0 48	Branch to Lower Yard, Bristol.	0 26	Moorfields Junction to Junction with G.W. Railway.	0 12	Maidstone Goods Branch.				
3 68	Nutbrook Branch.	0 66	Barton Street Junction, High Orchard.	0 33	Wernplunis Branch.	4 28	Upper Bank Junction to Glais Junction, viâ Llansamlet.				
2 34	Mapperley Branch.	0 23	Branch to New Dock, High Orchard.	0 9	Hendreladis Branch.	143 21					
0 35	Blackwell South Curve.	0 30	Sharpness Docks Branch.	0 77	Caellian Branch.		*Unused Lines.*				
2 36	Blackwell Branch.	0 78	Litchurch Wagon Works Branch.	0 7	Sixpit Junction to Junction with G.W. and Mid. Joint.	1 5	Avenue Sidings to Pilsley Branch Junction.				
2 42	Pilsley Branch.	0 19	London Road Goods Wharf.	0 30	Tramway Junction to Barton Street Junction.	0 32	Appleby South Curve.				
0 56	Nottingham Goods Station Branch.	0 14	Cloud Hill Lime Works Branch.	1 2	Coal Pit Heath Branch.	0 30	Wirksworth, bottom of 1 in 5 incline to junction with High Peak Railway.				
0 36	Nottingham Engine Shed Branch.	0 8	Ashby Gas Works Branch.	0 22	Bath Riverside, Branch.	0 24	Blackwell Branch.				
0 20	Parnham's Mill Siding.	1 41	Guild Street Branch.	0 21	Canal Wharf Branch, Rugby.	0 50	Mansfield South Junction to Mansfield East Junction.				
0 66	Cinder Hill Colliery Branch.	1 4	Hay Branch.	6 66	Holwell Branch Junction to Wycombe Junction.	0 73	Babbington Branch.				
0 60	Bestwood Colliery Branch.	0 20	Allsopp's Brewery Branch.	2 19	Ashwell Branch.	0 36	Eastwood Branch.				
0 40	King's Mill Branch.	0 11	Two Curves in Hay.	0 74	Woodville Goods Station Branch.	0 18	South Normanton Colliery Branch.				
0 39	Langton Colliery Branch.	0 18	Mosley Street Branch.	0 11	Swadlincote Goods Station Branch.	1 24	Morton Colliery Branch.				
0 77	Stanton Colliery Branch.	0 44	Horninglow Branch.	2 39	Netherseal Colliery Branch.	0 5	Stockingford Colliery Branch (not laid).				
0 30	Babbington Branch.	0 47	Shobnall (Leicester Junction to Canal).	2 53	Bretby Colliery Branch.	0 43	Sharpness Docks Branch (not laid).				
0 78	Heanor Goods Branch.	0 54	Bond End Branch (Junction with Shobnall Branch to end of same).	0 60	Branston Curve.	0 60	Tamworth Curve (not laid).				
0 37	Beggarlee Branch.	0 33	Robinson's Brewery Branch.	0 27	Soar Lane Branch.	0 4	Yniscedwyn Branch (not laid).				
0 18	New Brinsley Branch.	0 28	Uxbridge Street Junction to Eadie's Sidings.	1 18	Snibstone to Swannington.	0 49	Caellian " "				
0 73	Digby Colliery Branch.	0 22	Leicester Junction Sidings to Dale Street Junction.	3 58	Wymington Deviation.	1 7	Frampton Cotterill Branch (not laid).				
1 55	Watnall Colliery Branch.	0 20	Goods Yard Branch, Burton.	0 26	Hitchin Goods Station Branch.	0 30	Netherseal Colliery Branch (not laid).				
1 1	Buckland Hollow Branch.	0 14	Coal Wharf Branch, Burton.	1 74	Cransley Branch.	0 64	Hemel Hempstead Branch (not laid).				
0 79	Swanwick Colliery Branch.	0 12	Mann and Crossman's Brewery Branch.	0 38	Northampton Goods Station Branch.	1 21	Park Street Branch (not laid).				
0 55	Alfreton Colliery Branch.	0 4	Branch to Charrington's Brewery.	0 23	North London Incline.	11 15					
1 58	Skegby Colliery Branch.	0 6	Branch to Charrington's Maltings.	0 25	Canal Docks Branch.						
0 47	New Hucknall Colliery Branch.	0 4	Branch to Meakin's Maltings.	0 32	St. Pancras Goods Station Branch.	143 21	Goods lines.				
0 5	Seeley's Colliery Branch.			0 10	Melton Mowbray Highway District Board Branch.	11 15	Unused lines.				

m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
2 65	2 42				—	—	—	37 29	143 21	Goods Lines.
									11 15	Unused Lines.

Railway Company.	Total Length of the Company's Railway open for Passenger Traffic, and of all other Railways open for Passenger Traffic which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under								
			Worked by Telegraph - - - - - -								
			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
	Consisting of Two or more Lines of Rails	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*											
MIDLAND—*continued.*	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
			Lines worked:—								
	4 53	33 56	Kettering -	Huntingdon -	—	25 71					
			Gospel Oak - -	Tottenham North Junction.	4 53						
			Halesowen Branch - - - -		—	5 78					
					4 53	31 69					
			Joint Lines.								
	73 45	3 72	Hawes Joint Station - - -		0 27						
			Carnforth South Curve - - -		0 20						
			Wennington -	Carnforth - -	9 48						
			Swinton - -	Moorthorpe -	7 13						
			Moorthorpe Junction.	Junction with G.N.R.	0 56						
			Woodley Junction	New Mills Junction.	6 36						
			New Mills Junction.	Hayfield - -	0 46	2 16					
			Romiley Junction	Redditch Junction	2 54						
			Romiley Junction	Bredbury Junction	1 24						
			Sharpness Joint Station - -		0 15						
			Ashley Hill Junction.	Sneyd Park Junction.	3 24						
			Sneyd Park - -	Avonmouth -	4 3						
			Wisbech Junction, Peterboro'.	Junctn. with G.E. Railway, Lynn.	36 18						
			Weddington Junction.	Junction with L. & N.W. Rly.	0 61						
Total -	73 45	3 72			73 45	2 16					
Summary.											
Total, Midland - -	982 3	182 73	- - - -		979 18	35 30	0 59	106 73			
„ Lines worked -	4 53	33 56	- - - - -		4 53	31 69					
„ Joint Lines -	73 45	3 72	- - - - -		73 45	2 16					
Aggregate -	1,060 21	220 41			1,057 36	69 35	0 59	106 73			
MIDLAND AND GREAT NORTHEN JOINT LINES. *See* GREAT NORTHERN.	—	—	Bourn - -	Sutton Bridge.							
MIDLAND AND NORTH-EASTERN: JOINT LINES.	25 48	—	Swinton - -	Knottingley -	19 35						
			Otley - - -	Ilkley - -	6 13						
					25 48						
MIDLAND AND SOUTH-WESTERN JUNCTION.	1 29	54 61	Andoversford -	Dowdeswell -	0 49						
			Dowdeswell -	Cirencester - -	—	—	—	13 12			
			Cirencester - -	Swindon Town -	—	14 74					
			Swindon Town -	Marlborough Station.	—	—	—	11 23			
			Marlborough Station.	Marlborough Jn. with G.W.R.	0 27						
			Grafton - -	Andover Junction Station.	—	—	—	14 7			
			Swindon Junction with G.W.R.	Rushey Platt Junction.	0 33						
			Wolfhall Junction	Grafton - -	—	1 25					
					1 29	16 19	—	38 42			

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

Worked by Telegraph.				Single Lines of Railway not included in the foregoing Columns), (1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together and allowed to be upon the Single Line or portions thereof at one and the same time; or (2.) Worked under the Train Porter System; or (3.) Worked under the Train Staff System.						Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only.*	Remarks.
Not on either of the foregoing Systems.											
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of System as above. (1.)	Distance of Train Porter System. (2.)	Distance of Train Staff System. (3.) With Tickets.	Distance of Train Staff System. (3.) Without Ticket.		
		m. ch.	m ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
					Barnoldswick Branch - -		—	—	—	1 67	0 25	Nunnery Colliery Branch.
											1 23	Guiseley and Yeadon.
										1 67	1 48	
					Sneyd Park Junction.	Hotwells -	—	—	—	1 56	0 29	Branch to Avonmouth Docks.
											0 70	Wisbech Dock Junction to Market Place.
											0 44	Newark Curve.
											0 23	Donisthorpe Colliery Branch.
											0 52	Dentonholm Goods Branch.
											0 24	Connecting line, Six Pit.
											0 15	Peckham Rye Coal Depôt.
											3 17	
												Unused Lines.
											3 12	Stoke Golding Junction to Hinckley Junction. (not laid).
											0 74	Wath Curve.
											4 6	
											3 17	Goods lines.
											4 6	Unused lines.
		—	—	—			—	—	—	1 56	—	
												Unused Lines.
		2 65	2 42	—			—	—	—	37 29	143 21	11 15
		—	—	—			—	—	—	1 67	1 48	—
		—	—	—			—	—	—	1 56	3 17	4 6
		2 65	2 42	—			—	—	—	40 72	148 6	15 21

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under								
			Worked by Telegraph - - - - - - - -								
			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*											
NEATH AND BRECON :—	m. ch. 0 37	m. ch. 39 61	Ynisygeinon Junction.	*Mount St. Signal Box, Brecon.	m. ch. —	m. ch. 28 70	m. ch. —	m. ch. —	- - -	- - -	m. ch. —
			*Mount St. Signal Box, Brecon.	Junction with Brecon and Merthyr Ry., Brecon.	0 11						
Neath Branch - -	—	—	Colbren Junction	Neath Signal Box	—	10 71					
			†Neath Signal Box	Junctn. with G.W. Ry., Neath.	0 26						
					0 37	39 61					
NORTHAMPTON AND BANBURY.	0 36	14 50	Blisworth - -	Green's Norton -	0 36	4 58	—	—	- - -	- - -	—
NORTH AND SOUTH-WESTERN JUNCTION.	3 14	1 46	Old Oak Junction	Kew Bridge -	3 14	—	—	—	- - -	- - -	—
			South Acton -	Hammersmith Junction.	—	—	0 23				
			Hammersmith Station.	Hammersmith Junction.	—	1 23					
					3 14	1 23	0 23				
NORTH-EASTERN -	966 31	420 58	Berwick - -	Newcastle Manors	65 79	—	—	—	- - -	- - -	—
			Tweedmouth Junction.	Sprouston Junction.	21 7						
			Gateshead, High Street.	Gateshead Junction.	0 13						
			Park Lane Junction, Gateshead.	York - -	78 69						
			Coldstream Junction.	Alnwick Junction	0 44	34 74					
			Alnwick Junction	Alnwick - -	2 69	—	0 17				
			Amble Branch Junction.	Amble Station -	—	4 73					
			Scotswood, West Junction.	Bishop Auckland	21 10	13 43					
			Baxter Wood Junction.	Bridge House Junction.	0 52						
			Pelaw Junction -	South Shields, New Station.	7 11						
			Pelaw Junction -	Sunderland, New Station.	8 37						
			Sunderland New Station.	Penshaw Junction	5 75						
			Sunderland Junction.	Ryhope Grange Junction.	1 63						
			Forth Goods Junction.	Carlisle Junction	59 6						
			Haltwhistle Junction.	Alston - -	—	13 0					
			Heaton Junction	Tynemouth -	6 33						
			Byker Junction -	Percy Main -	6 43						
			Percy Main Junction.	Percy Main North Junction.	0 17						
			Percy Main North Junction.	Tyne Commissioners No. 1 Cabin.	0 52						
			Primrose Hill, Stockton.	Stranton Lane, W. Hartlepool.	11 14						
			Norton, East Junction.	Norton, West Junction.	0 28						
			Norton, South Junction.	Ferryhill - -	11 10						
			Billingham Junction.	Port Clarence Junction.	3 0						
			Cleadon Junction	Horton Junction	1 64						
			Murton Junction	Shincliffe D. & S.	—	7 57					
			Gateshead Junction.	Ferryhill - -	22 71						
			Ferryhill - -	Hartlepool -	16 29						
			Clarence Junction, W. Hartlepool.	East Hartlepool Junction.	1 53						
			Cemetery Road West.	Cemetery Junc., N. Hartlepool.	0 35						
			Ryhope Grange Junction.	Castle Eden, North Junction.	12 3						
			Castle Eden, N. Junction.	Carlton, North Junction.	9 70						
			Carlton, North Junction.	Carlton, East Junction.	0 37						
			Byers Green Junction.	Burnhouse Junction.	4 32						
			Burnhouse Junction.	Bishop Auckland, East Junction.	—	3 51					
			Byers Green Junction.	Cornforth Lane -	1 14						

OF OTHER RAILWAYS WORKED BY THEM.

the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

Worked by Telegraph.					Single Lines of Railway (not included in the foregoing Columns), (1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or portions thereof at one and the same time; or (2.) Worked under the Train Porter System; or (3.) Worked under the Train Staff System.						Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only.*	Remarks
Not on either of the foregoing Systems.			Distance of Single Line.				Distance of					
From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	From	To	System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.) With Tickets.	Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
		—	—	—			—	—	—	—	63	*Worked by fixed signals only. †Worked temporarily by fixed signals.
		—	—	—	Green's Norton	Cockley Brake Junction.	—	—	9 72	—	—	
		—	—	—			—	—	—	—	—	
Tweedmouth, N. Cabin.	Tweedmouth, S. Cabin.	0 14	—	—	Hexham Junction	Carton Road	12 16	—	—	—	175 45	
Newcastle Manors.	Newcastle Dean Street.	0 18			Corniforth Lane	Coxhoe	0 65					
Newcastle, Dean Street.	Newcastle Central (No. 3).	0 10			Tebay Station	Tebay Yard	0 26					
Newcastle, Forth Goods Jn.	Shot Factory Lane Cabin.	0 28										
Shot Factory Lane Cabin.	High Level Cabin.	0 52										
High Level Cabin.	Gateshead Jn.	0 10										
Gateshead, High St. Jn.	Gateshead, Hawks Jn.	0 15										
Hawks Jn.	Park Lane.	0 18										
Port Clarence Jn.	Port Clarence Station.	0 24										
Leeds New Stn., East Cabin.	Leeds New Stn., Canal Cabin.	0 29										
Stockton Jn.	Primrose Hill.	0 15										
Hartlepool W. Stn. Cabin.	Church St. Jn.	0 7										
Hartlepool W. Stn. Cabin.	Clarence Rd. Jn.	0 15										
Guisboro' Station Cabin.	Guisboro' Station.	0 12										
Harrogate N. Cabin.	Harrogate S. Cabin.	0 14										
York Stn. Cabin.	York Loco. Cabin.	0 15										
Scarboro' Station Cabin.	Falsgrave Cabin.	0 29										

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAY, OR (Where the System is not continuous, enter separately one under the other, under								
			Worked by Telegraph - - - - - -								
			On the Absolute Block System.						On the Permissive Block System.		
					Distance of Single Line.						
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*											
NORTH - EASTERN—*continued.*	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
			Auckland Junction.	Durham, East Cabin.	3 64						
			Dearness Junction	Hedley Hill -	1 78	3 53					
			Dalton Junction -	Richmond -	9 74						
			York - -	Scarborough -	41 48						
			Malton, E. Cabin	Driffield, West Junction.	0 40	18 62					
			Sessay Wood Junction.	Sunbeck Junction	0 31						
			Bishop House Junction.	Sunbeck Junction	0 36						
			Sunbeck Junction	Scarboro' Road Junc., Malton. (Less Gilling and Hemsley Bnch.).	—	19 35					
			Rillington - -	Whitby - -	30 47						
			Mill Lane, Junc., Pickering.	Seamer Junction	0 75	15 6					
			Grosmont Junction.	Picton Junction -	11 68	17 63					
			Nunthorpe Junction.	Battersby Junction.	—	5 10					
			York - -	Altofts Junction -	23 12						
			Methley Junction	Whitwood Junction.	0 50						
			Burton Salmon Junction.	Knottingley Junction.	2 68						
			Chandlers Whin Cabin.	Shaftholme Junction.	26 34						
			Joan Croft Junction.	Applehurst Junction.	0 48						
			Thorne - -	Staddlethorpe Junction.	14 0						
			Potter's Grange Junction.	Goole, L. and Y. Junction.	0 60						
			Milford Junction Station.	Gascoigne Wood Junction.	1 29						
			Gascoigne Wood Junction.	Sherburn Junction.	1 16						
			Leeds New Station	Park Street, Hull	51 21						
			Cliffe Junction -	Market Weighton Junction.	16 4						
			Geldard Junction	Thirsk Junction -	37 73						
			Starbeck North Junction.	Bilton Road Junction.	1 4						
			Dragon Junction, Harrogate.	Poppleton Junction.	17 72						
			Starbeck South Junction.	Pannal Junction -	2 65						
			Melmerby Junction.	Northallerton -	—	11 33					
			Northallerton -	North Stockton -	17 43						
			Church Fenton Junction.	Micklefield Junction.	4 79						
			Cross Gates Junction.	Wetherby Junction.	0 44	10 23					
			Garforth Junction	Castleford Junction.	0 43	5 54					
			Castleford Station	Cutsyke Junction	0 64						
			Church Fenton Junction.	Crimple Junction	16 45						
			Gilling - -	Mill Lane Junc., Pickering.	0 22	16 46					
			Ripley Junction -	Pateley Bridge -	—	11 34					
			Melmerby - -	Masham - -	—	7 42					
			Arthington - -	Otley - -	3 25						
			Arthington North Junction.	Arthington West Junction.	0 22						
			Knaresboro' Junction.	Pilmoor Junction	—	13 7					
			Bootham Junction	Beverley Junction	31 40						
			Cottingham Junction.	Hessle Road Junction.	—	1 53					
			Anlaby Road Junction.	Botanic Gardens Junction.	0 37						
			West Parade Junction, Hull.	Southcoates Junction.	2 59						
			Southcoates Junction.	Withernsea -	0 26	17 19					
			Wilmington Junction.	Hornsea - -	0 14	12 66					
			West Parade Junction.	Seamer Junction -	49 70						
			Driffield Junction	Driffield West Junction.	0 23						

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

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Not on either of the foregoing Systems.												
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of System as above. (1.)	Distance of Train Porter System. (2.)	Distance of Train Staff System. (3.) With Tickets.	Distance of Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under WORKED BY TELEGRAPH								
			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*											
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
NORTH - EASTERN—*continued.*			Northallerton High Junction.	Castle Hills Inner Junction.	—	0 43					
			Castle Hills Junction.	Leyburn - -	1 54	15 43					
			Leyburn - -	Hawes - -	—	16 29					
			Clifton Station -	Clifton Junction -	0 35						
			Eamont Junction	Red Hills Junction.	1 7						
			Clifton Station -	Darlington North Road.	24 13	35 23					
			Kirkby Stephen -	Tebay - - -	3 44	8 0					
			Barnard Castle -	Bishop Auckland	4 13	10 65					
			Tees Valley Junction.	Middleton in Teesdale.	—	7 54					
			Wilton Junction -	Stanhope - -	0 31	12 34					
			Hownes Gill Junction.	West Durham Junction.	5 0	7 79					
			Hownes Gill Junction.	Consett South Junction.	—	0 25					
			West Durham Junction.	Saltburn - -	44 61						
			Bishop Auckland North Junction.	Bishop Auckland West Junction.	0 20						
			Albert Hill Junction.	Parkgate Junction, Darlington.	0 27						
			Polam Junction -	Oak Tree Junction	3 77						
			Hartburn Junction.	Bowesfield Junction.	0 42						
			Saltburn Junction.	Loftus - -	6 71	1 22					
			Guisboro' Junc., Middlesbro'.	Guisboro' Station Cabin.	9 30						
			Hutton Junction, Guisboro'.	Brotton - -	6 46						
			Priestcroft Junction.	Foggo Junction -	1 15						
			Newcastle, New Bridge E. Stn.	Backworth Junction.	6 29						
			Backworth Junction.	Morpeth - -	11 15	2 66					
			Bedlington Junction.	Newbiggin -	2 68	2 53					
			Newsham Junction.	Isabella Pit Junction.	0 34						
LINE WORKED: Sprouston Junction and Kelso.	1 21		Isabella Pit Junction.	Blyth - -	0 78	0 21					
Scarborough and Whitby.	—	20 58	Backworth Junction.	Monkseaton Junction.	2 44						
Scarborough, Bridlington, and West Riding Junction Railway.	13 11		Monkseaton Junction.	Tynemouth -	2 54						
			Monkseaton Junction.	Hartley Junction, Avenue Branch.	—	3 52					
			Scotswood Junction.	West Wylam Junction.	6 38						
			Loftus - -	Bog Hall Junction.	0 7	16 21					
			Prospect Hill Junc., Whitby.	Faisgrave Junc., Scarborough.	—	20 58					
JOINT LINES: Otley and Ilkley, and Swinton and Knottingley. *See* p. 56.			Sprouston Junction.	Kelso - -	1 21						
			Market Weighton East Junction.	Driffield West Junction.	13 11						
	980 63	441 36			976 58	427 72	0 17	—			
NORTH LONDON -	11 65	—	Broad Street -	Chalk Farm -	5 51	—	—	—	- - -	- - -	—
			Dalston Junction.	Poplar Central Junction.	4 58						
			Western Junction, Dalston.	Eastern Junction, Dalston.	0 33						
			Bow - -	Junction with Great Eastern Railway at Bow Bank.	0 32						
			Bow - -	Junction with Tilbury Railway at Bromley.	0 51						
					11 65						
NORTH STAFFORDSHIRE.	150 4	18 51	Macclesfield Junction.	Stoke North Box	19 46	—	—	—	Macclesfield, L. & N.W.	Macclesfield Junction.	0 16
			Stoke South Box	Colwich, N.S. -	18 21				Crewe Sidings	Crewe Junction.	0 20
			Stone Junction -	Norton Bridge, N.S.	8 42						
			North Rode - -	Uttoxeter Junction.	27 52						

OF OTHER RAILWAYS WORKED BY THEM.
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- - - Worked by Telegraph.

Not on either of the foregoing Systems.

From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.
		m. ch.	m. ch.	m. ch.
		4 5		
- - -	- -	—	—	—
Stoke North Box.	Stoke South Box.	0 20	—	—
Colwich Junction.	Colwich N. S. Box.	0 20		
Norton Bridge Junction.	Norton Bridge N. S. Box.	0 10		

Single Lines of Railway (not included in the foregoing Columns),
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(2.) Worked under the Train Porter System; or
(3.) Worked under the Train Staff System.

From	To	Distance of: System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.) With Tickets.	Train Staff System. (3.) Without Ticket.
		m. ch.	m. ch.	m. ch.	m. ch.
		13 27			
- - -	-	—	—	—	—
Sneyds Junction -	Tunstall Junction	—	—	—	—
Chatterley Junction.	Chesterton -	—	—	—	—
Stretton - -	Horninglow -	—	—	—	—
Lawton Junction	Lawton Yard -	—	—	—	—

Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only.*

m. ch.
175 45
—
1 8
1 70
1 23
23

Remarks.

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under								
			Worked by Telegraph								
			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
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ENGLAND AND WALES—*continued*.											
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
NORTH STAFFORDSHIRE—*continued*.			Rocester - -	Ashbourne - -	—	6 66					
			Uttoxeter North Junction.	Uttoxeter West Junction.	0 26						
			Crewe Sidings -	Harecastle Junction.	8 4						
			Stoke Junction -	Willington Junction.	29 77						
			Marston Junction	Burton Junction -	3 27						
			Congleton Upper Junction.	Heaths Junction -	—	4 40					
			Heaths Junction -	Stoke Junction -	8 6						
			Cheddleton Junction.	Milton Junction -	—	6 60					
			Kidsgrove Junction.	Etruria Junction -	7 25						
			Alsager Junction	Keele Junction -	7 30						
			Newcastle Junction.	Hartshill -	0 59						
			Hartshill - -	Newcastle Station	—	0 45					
			Newcastle Station	Market Drayton Junction.	14 63						
					148 78	18 51					0 36
NORTH WALES NARROW GAUGE.	—	11 70	Dinas - -	Snowdon - -	—	9 35	—	—	- - -	- - -	—
OLDHAM, ASHTON, AND GUIDE BRIDGE JUNCTION.	5 61	—	Guide Bridge	Oldham - -	4 76	—	—	—	Sheepwashers' Lane, Clegg Street, and Waterloo.		0 19
			Canal Junction -	Audenshaw Junction.	0 29	—	—	—	Waterloo Box and O, A, and G. B. Boundary.		0 17
					5 25						0 36
PEMBROKE AND TENBY.	—	27 24	Pembroke Dock -	Whitland -	—	27 24	—	—	- - -	- - -	—
PONTYPRIDD, CAERPHILLY, AND NEWPORT.	5 11	—	Pontypridd Junction.	Penrhos - -	5 11	—	—	—	- - -	- - -	—
RAVENGLASS AND ESKDALE.	—	7 11	- - -	- - -	—	—	—	—	- - -	- - -	—
RHONDDA AND SWANSEA BAY.	2 50	12 12	Port Talbot - -	Treherbert -	2 42	1 54	—	10 54	- - -	- - -	—
RHYMNEY - -	26 34	5 58	Old Cardiff Station	New Station -	0 36	—	—	—	- - -	- - -	—
			Cardiff - -	Pontlottyn Station	21 28						
			Pontlottyn Station	Pontlottyn Viaduct, North.	—	—	—	0 9			
			Pontlottyn Viaduct	Rhymney - -	0 78						
			Walnut Tree Junction.	Nantgarw - -	1 35						
			Nantgarw -	Aber Junction -	—	—	2 13				
			Bargoed Junction	Bargoed West Junction.	0 24						
			Bargoed West Junction.	Deri Junction -	—	—	—	2 36			
			Ystrad Junction -	Penalita Junction	1 40						
			Caerphilly West Junction.	Penrhos Junction	—	—	—	1 0			
Rhymney Joint Line. *See* London and North-Western.			Caerphilly East Junction.	Junction with B. and M. Railway near Caerphilly.	0 33						
Merthyr Joint Lines	6 57	—	Merthyr (Quakers' Yard).	Merthyr - -	6 57						
	33 11	5 58			33 11	—	2 13	3 15			

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

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From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of: System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.) With Tickets.	Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
					Lawton Junction	Ethley Heath -	—	—	—	—	5 28	
					Ethley Heath -	Sandbach - -	—	—	—	—	0 65*	
					Jamage Junction	Jamage - -	—	—	—	—	0 44*	
					Knutton - -	Pool Dam - -	—	—	—	—	1 25	
					Diglake - -	Bignall End -	—	—	—	—	0 24†	
					Apedale Junction	Apedale - -	—	—	—	—	1 40*	
					Talke Junction -	Talke - -	—	—	—	—	1 30*	* Worked on system No. 3.
					Congleton Lower Junction.	Congleton (Town)	—	—	—	—	1 0*	† Worked on system No. 1.
					Newfields Junction	Newfields - -	—	—	—	—	0 60*	
					Hyatts Junction -	Grange - -	—	—	—	—	1 21*	
					Froghall Junction	Froghall - -	—	—	—	—	0 50†	
					Oakamoor Station	Oakamoor - -	—	—	—	—	0 24†	
					Normacot Junction.	Botteslow Junction.	—	—	—	—	3 64*	
					Hulme Junction -	Hulme Colliery -	—	—	—	—	0 36†	
					Hanley Junction -	Hanley Goods -	—	—	—	—	0 13†	
					Cresswell - -	Tolmunslow -	—	—	—	—	1 20*	
		0 50									25 28	
- - -	- - -	—	—	—	Tryfan Junction -	Bryngwyn - -	—	—	—	2 35	1 8	*This is an incline worked by a wire rope for mineral traffic only.
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	—	
- - -	- - -	—	—	—	- - -	- - - -	—	—	—	—	0 34	Dockyard Extension.
											0 51	Hobb's Point Extension.
- - -	- - -	—	—	—	- - -	- -	—	—	—	—	2 2	Bassaleg Junction to Alexandra Dock Junction.
- - -	- - -	—	—	—	Ravenglass -	Boot	7 11	—	—	—	—	
Danygraig	Swansea, East Dock.	0 8	—	0 23	- - -	-	—	—	—	—	1 61½	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	1 4	Dock Branch, Cardiff Station.
											0 48	Hendredenny Colliery Branch.
											0 60	New Tredegar Colliery Branch.
											0 25	Merthyr Vale Branch.
											2 57	Colliery Branches.

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under) WORKED BY TELEGRAPH								
			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
ENGLAND AND WALES—*continued.*											
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
RHYMNEY AND GREAT WESTERN JOINT.	9 19	—	Llancaiach - -	Dowlais - -	9 19	—	—	—	- - -	- - -	--
SEVERN AND WYE AND SEVERN BRIDGE.	2 79	19 15	Sharpness West Box.	Sharpness East Box.	0 31	—	—	--	Parkend -	Coleford Junction.	0 60
			Sharpness East Box.	Severn Bridge Station.	--	—	—	0 79			
			Severn Bridge Station Loop - -		0 16						
			Severn Bridge Station.	Lydney Junction	—	—	—	2 18			
			Junction line with G. W. Ry., Lydney		0 9						
			Lydney Junction	Lydney Town -	1 12						
			Lydney Town -	Tufts Junction -	—	—	—	1 50			
			Tufts Junction Loop - -		0 14						
			Tufts Junction -	Parkend - -	—	—	—	1 28			
			Coleford Junction	Speech House Road	--	—	—	1 76			
			Speech House Road	Drybrook Road -	—	2 42					
			Serridge Junction	Upper Lydbrook -	—	2 33					
			Upper Lydbrook Loop - - -		0 17						
			Upper Lydbrook -	Lydbrook Junction.	—	1 59					
			Coleford Junction	Coleford -	—	3 55					
					2 19	10 29	—	8 11			0 60
SHEFFIELD AND MIDLAND COMMITTEE.	10 72	—	Reddish Junction	Ashburys Junction	3 22	—	—	—	- - -	- - -	—
			Woodley - -	Hyde Junction -	2 48						
			Hough Green -	Widnes East -	5 2						
					10 72						
SOUTH-EASTERN	361 77	41 71	Throughout -	- - - - -	361 77	41 66	—	—	- - -	- - -	—
Elham Valley Line - (Included above.)											
Chatham Extension -	1 11	—	- - -	- - -	1 11						
Cranbrook Line -	—	6 11			—	—	—	6 11			
Dover and Deal Joint Line. See p. 14.											
	363 8	48 2			363 8	41 66	—	6 11			
SOUTH-WESTERN AND MIDLAND SOMERSET AND DORSET JOINT LINE.	27 71	76 4	Bath - - -	Midford - - -	—	—	—	3 69	- - -	- - -	—
			Midford - -	Wellow - -	2 31						
			Wellow - -	Radstock - -	—	—	—	3 70			
			Radstock - -	Templecombe -	25 40						
			Templecombe -	Wimborne -	—	—	—	27 41			
			Bailey Gate -	Broadstone -	—	—	—	4 42			
			Evercreech Junction.	Edington Junction	—	—	—	17 7			
			Edington Junction	Burnham - -	—	6 62					
			Glastonbury -	Wells - -	—	5 26					
			Edington Junction	Bridgwater - -	—	—	—	7 7			
					27 71	12 8	—	63 76			
SOUTHWOLD - -	—	9 0	- - -	- - -	—	—	—	—	- - -	- - -	—
SWANSEA AND MUMBLES.	—	5 10	- - -	- - -	—	—	—	—	- - -	- - -	—

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

- - Worked by Telegraph.					Single Lines of Railway (not included in the foregoing Columns), (1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or portions thereof at one and the same time; or (2.) Worked under the Train Porter System; or (3.) Worked under the Train Staff System.						Length of the Portions of Company's Railway and of other Railways worked by them for Goods and Mineral Traffic only.	Remarks.
Not on either of the foregoing Systems.			Distance of Single Line.				Distance of					
From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	From	To	System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.) With Tickets.	Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	—	
- - -	- - -	—	—	—	Drybrook Road -	Cinderford - -	0 55	—	—	—	15 75*	* Of this total 1 m. 62 ch. are private branches.
							0 55				15 75	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	—	
- - -	- - -	—	—	—	Waterloo, S.E.R. -	Waterloo, S.W.R..	0 5	—	—	—	48	
							0 5	—	—	—	5 48	
- - -	- - -	—	—	—	- - -	-	—	—	—	—	—	
- - -	- - -	—	—	—	Halesworth -	Southwold -	—	—	—	9 0	—	
- - -	- - -	—	—	—	Swansea -	Mumbles -	—	—	5 10	—	0 61	

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under WORKED BY TELEGRAPH - - - - - -									
			On the Absolute Block System.						On the Permissive Block System.			
					Distance of Single Line.							
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.	
ENGLAND AND WALES—*continued*.												
TAFF VALE - -	m. ch. 59 2	m. ch. 21 0	Rhondda Fach Junction.	Maerdy Junction	m. ch. 5 5	m. ch.	m. ch.	m. ch.	*Cardiff Terminus.	Foot of main incline.	m. ch. 16 43	
			Maerdy Junction	Maerdy - - -	—	1 42			*Quakers' Yard Jn.	Brandy Bridge	5 53	
			Foot of main incline.	Quakers' Yard Junction.	1 40				*Penarth Junction.	Llandough Upper Jun.	5 40	
			Brandy Bridge -	Mardy - -	0 19				*Rhondda Junction.	Treherbert -	10 45	
			Llandough Upper	Penarth Dock -	0 54				*Aberdare Junction.†	Aberdare -	7 37	
			Penarth Dock -	Penarth Town -	0 75							
			Penarth Town -	Biglis Junction -	4 55							
			Treherbert -	Rhondda and Swansea Bay Junction.	0 19							
			Llantrissant Junction.	Maesaraul -	—	5 18						
			Stormstown -	Windsor Passing Siding, South.	—	1 22						
			Windsor Passing Siding, South.	Windsor Passing Siding, North.	0 16							
			Windsor Passing Siding, North.	Ynysybwl Station	—	0 64						
			Llantrissant Junction.	Cowbridge -	—	66						
			Cowbridge Junction.	Aberthaw -	—	6 28						
Joint Line -	0 37											
	59 39	21 0			13 43	21 0						45 58
TALYLLYN - -	—	6 50	- - -	- - -	—	—	—	—	- - -	- - -	—	
WEST LANCASHIRE	23 64	—	Southport -	Preston - -	14 63	—	—	—	- - -	- - -	—	
			Ribble Junction -	Middleforth Junction.	0 22							
			Penwortham Junction.	Middleforth Junction.	0 25							
			Middleforth Junction.	Whitehouse Junction.	0 52							
			Roe Lane Junction.	Meols Cop - -	0 32							
			Hawkshead Street Junction.	Meols Cop -	0 31							
			Meols Cop - -	Hillhouse Junction.	6 79							
					23 64							
WEST LONDON EXTENSION.	5 8	—	Junc. with West London Line.	Longhedge Junction.	3 19	—	—	—	- - -	- - -	—	
			Latchmere Junction.	W. London Junction (L. & S.W.)	0 38							
			Latchmere Junction.	Clapham Junction (L. & S.W.)	0 49							
			Latchmere Junction.	Clapham Junction (L. B. & S. C.)	62							
					5 8							
WEST RIDING AND GRIMSBY JOINT. (*See* GREAT NORTHERN.)												
WEST SOMERSET MINERAL.	—	6 0	- - -	- - -	—	—	—	—	- - -	- - -	—	
WIRRAL - - -	4 16	6 6	Birkenhead Park	New Brighton -	4 16	—	—	—	- - -	- - -	—	
			Bidston Junction	West Kirby -	—	6 6						
					4 16	6 6						
WREXHAM, MOLD, AND CONNAH'S QUAY.	13 13	3 53	Wrexham - -	Hawarden Bridge	13 13	—	—	—	- - -	- - -	—	
			Brymbo Junction.	Brymbo - -	—	3 53						
					13 13	3 53						

OF OTHER RAILWAYS WORKED BY THEM.

the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

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From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of System as above. (1.)	Distance of Train Porter System. (2.)	Train Staff System. (3.) With Tickets.	Train Staff System. (3.) Without Ticket.		
											m. ch.	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	39 62	* Permissive block for mineral trains, and absolute block for passenger trains.
												† In this section there is also a third passenger line of 73 ch. worked on the train tablet system.
											39 62	
- - -	- - -	—	—	—	Towyn - - -	Abergynolwyn -	6 50	—	—	—	—	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	1 11	River Douglas to Tarleton.
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	—	
- - -	- - -	—	—	—	Watchet - -	Comberow - -	6 0	—	—	—	—	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	—	
- - -	- - -	—	—	—	- - -	- - -	—	—	—	—	6 12‡	Buckley Junction to Connah's Quay.
											1 29‡	Brymbo Station to Steel Works and Vron.
											2 44§	Frood Junction to Bryn Mally and Moss.
											1 8§	Hawarden Bridge to Connah's Quay
											11 13	‡ Worked on system No. 3.
												§ Worked on system No. 1.

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under									
			Worked by Telegraph									
			On the Absolute Block System.							On the Permissive Block System.		
						Distance of Single Line.						
	Consisting of Two or more Lines of Rails	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
SCOTLAND.												
CALEDONIAN - -	m. ch. 444 78	m. ch. 201 51	Carlisle (No. 4 Box).	Glasgow (Buchanan Street Box).	m. ch. 104 46	m. ch. —	m. ch. —	m. ch. —	- -	- - -	m. ch. —	
			Port Carlisle Branch - -		0 40							
			Kirtlebridge Junction.	Annan - -	—	—	—	5 43				
			Lockerbie - -	Dumfries Junction	—	—	—	14 44				
			Beattock - -	Moffat - -	—	1 66						
			Symington - -	Peebles Box -	—	—	—	19 4				
			Strawfrank Junction.	Dolphinton Junction.	0 23							
			Carstairs - -	Edinburgh Box -	27 45							
			Dalry (Middle) Junction.	Haymarket (West) Junction.	0 64							
			Dolphinton Junction.	Bankhead - -	—	1 50						
			Wilsontown (S.) Junction.	Wilsontown -	1 33	1 38						
			Ravelrig Junction	Balerno Junction	—	—	—	6 2				
			Slateford Junction	Leith Box - -	5 40							
			Dalry Junction -	Coltbridge Junction.	0 38							
			Midcalder Junction.	Mossend (South) Junction.	22 74							
			Silvermuir (East) Junction.	Silvermuir (South) Junction.	0 19							
			Cleghorn Junction	Lanark Box -	2 42							
			Douglas (East) Junction.	Douglas (South) Junction.	—	—	0 24					
			Douglas (Smyllum West) Junction.	Muirkirk Junction.	—	—	—	19 18				
			Law Junction -	Holytown Junction.	5 40							
			Cleland Junction	Omoa Junction -	1 25							
			Omoa Junction -	Morningside -	—	—	—	3 73				
			Lesmahagow Junction.	Haughhead Junction.	1 79							
			Hamilton Junction.	Coalburn -	13 67	—	—	7 77				
			Stonehouse Junction.	Stonehouse - -	—	3 27						
			Southfield Junction.	Blackwood Box -	1 62							
			Strathaven Junction.	Strathaven - -	6 5	—	—	4 15				
			Auchenraith Junction.	Blantyre - -	0 51							
			Milnwood Junction.	Fullwood Junction	0 33							
			Fullwood Junction	Uddingston Junction.	3 55							
			Mossend (West) Junction.	Mossend (North) Junction.	0 39							
			Whifflet (North) Junction.	Rosehall Junction	0 33							
			Coatbridge Junction.	Langloan - -	0 50							
			Airdrie Box - -	Rutherglen Junction.	9 22							
			Airdrie Junction -	Chapelhall - -	1 79							
			Chapelhall -	Newhouse -	—	—	—	1 34				
			Lesmahagow Junction.	Glasgow (Central)	12 57							
			Bothwell Junction.	Bothwell Box -	1 10							
			Dalmarnock Junction.	Germiston (Low) Junction.	4 39							
			Rutherglen (West) Junction	Clyde Junction -	0 36							
			Loudon Road Junction.	Loudon Road Junction Box.	0 28							
			Gushetfaulds Junction.	Langside Junction	0 23							
			Gushetfaulds Junction.	Shiels Junction -	1 29							
			Eglinton Street Junction.	Strathbungo Junction.	0 69							
			StrathbungoJunction.	Terminus Junction.	0 49							
			Line connecting Caledonian Railway with Glasgow and Paisley Joint Line at Bridge Street Junction, Glasgow.		0 8							
			Busby Junction -	Busby Box - -	3 60							
			Busby Box - -	Hunthill Junction	—	—	—	7 53				
			Paisley Junction (Stonybrae Box).	Gourock - -	18 73							

OF OTHER RAILWAYS WORKED BY THEM.
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- - - - -		m. ch. —	m. ch. —	m. ch. —	Bankhead - -	Dolphinton - -	m. ch. —	m. ch. —	m. ch. —	m. ch. 9 23	m. ch. 74 7	*Note.*—The Caledonian Company, in addition to the 201 m. 51 ch. of single line, has a single line of 1 m. 38 ch. of tramway worked by horses from Inchture Station to Inchture Village.
					Grangemouth (South Box).	Grangemouth -	—	—	—	0 25		
					Methven Junction	Methven - -	—	—	—	1 22		
					Blairgowrie Box -	Blairgowrie - -	—	—	—	0 22		

RAILWAY COMPANY.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under								
			WORKED BY TELEGRAPH - - - - - - - - -								
			On the Absolute Block System.						On the Permissive Block System.		
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SCOTLAND—*continued.*											
CALEDONIAN—*cont.*	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
			Gartsherrie (South Junction).	Gartsherrie (N. British Junc.).	0 11						
			Garnqueen (South) Junction.	Garnqueen (North) Junctn.	0 36						
			Gartcosh Junction	Aberdeen - -	145 37						
			Greenhill (Lower) Junction.	Greenhill (Upper) Jn. with North British.	0 60						
			Bonnybridge Junction.	Bonnybridge -	0 66						
			Carmuirs (East) Junction.	Carmuirs (West) Junction.	0 38						
			Grangemouth (Branch) Junc.	Grangemouth (South Box).	2 24						
			Larbert Junction	Denny - -	—	3 10					
			Carmuirs West Jn. (for Denny).	Denny West Junction.	0 27						
			Alloa Junction -	Throsk - -	4 9						
			Throsk - -	Forth Bridge -	—	—	—	0 30			
			Forth Bridge -	Longcarse Junction.	0 72						
			Dunblane - -	Callander (C. & O.) Junction.	—	—	—	10 15			
			Crieff Junction -	Crieff - -	—	—	—	9 0			
			Crieff - -	Almond Valley Junction.	—	—	—	16 3			
			Perth (St. Leonard's Br. Box).	Dundee (Buckingham Jn. Box).	20 55	—	—	0 22			
			Ninewells Junction.	Fairmuir Junction.	—	4 40					
			Fairmuir Junction.	Newtyle Box -	—	—	—	9 69			
			Newtyle Box -	Newtyle Junction	0 27						
			Broughty Junction.	Forfar Junction -	—	—	—	17 10			
			Kirriemuir Junction.	Kirriemuir - -	—	—		3 12			
			Ardler Junction -	Newtyle Junction	—	—	—	1 37			
			Newtyle Junction	Alyth - -	—	—	—	6 17			
			Coupar Angus Junction.	Blairgowrie Box -	—	—	—	4 6			
			Guthrie Junction	Friockheim Junction.	1 30						
			Glasterlaw Junction.	Arbroath (St. Vigeans Junc.)	7 1						
			Bridge of Dun Junction.	Brechin Box -	—	4 0					
			Dubton - -	Montrose - -	—	3 0					
	444 78	201 51			444 78	22 71	0 24	167 24			
Solway Junction -	—	11 63	- - -	- - -	—	—	—	—	- - -	- - -	—
			Annan - -	Kirkbridge Junction.	—	—	—	6 56			
			Abbey Junction -	Brayton Junction	—	—	—	5 7			
Greenock and Wemyss Bay.	—	10 6	Wemyss Bay Junction.	Berryards Box -	—	—	—	2 6			
			Berryards Box -	Upper Greenock -	—	—	0 15				
			Upper Greenock -	Wemyss Bay -	—	7 65					
Callander and Oban	—	71 45	Callander (C. and O.) Junction.	Oban - - -	—	—	—	71 45	- - -	- - -	- -
Killin - -	—	5 13	Killin Junction -	Lock Tay (Killin Pier).	—	5 13					
Cathcart District -	2 11	—	Cathcart Junction	Cathcart - -	2 11						
Lanarkshire and Ayrshire.	13 45	6 28	Barrmill Junction	Ardrossan Pier -	12 45	—	—	—	- - -	- - -	—
			Giffen - -	Glengarnock -	—	—	—	3 15			
			Glengarnock -	Kilbirnie - -	1 0						
			Kilwinning Junction.	Irvine - -	—	—	—	3 13			
	460 54	306 46			460 54	35 69	0 39	259 6			
CITY OF GLASGOW UNION.	4 57	—	Sighthill Junction	Pollok Junction -	4 57	—	—	—	- - -	- - -	—

OF OTHER RAILWAYS WORKED BY THEM.

the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

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From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of. System as above. (1.)	Distance of. Train Porter System (2.)	Distance of. Train Staff System. (3.) With Tickets.	Distance of. Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
										11 12		
		—	—	—			—	—	—	—	0 32	
		—	—	—			—	—	—	—	0 30	
		—	—	—			—	—	—	—	30	
							—	—	—	11 12	76 19	
		—	—	—			—	—	—	—	70	Double line.
											0 59	Single line, worked by telegraph and train staff.
											1 49	

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under Worked by Telegraph - - - - - - - -								
			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
SCOTLAND—*continued.*											
DUNDEE AND ARBROATH JOINT.	m. ch. 17 7	m. ch. —	Carolina Port, Dundee.	Arbroath South Box.	m. ch. 15 67	m. ch. —	m. ch. —	m. ch. —	- - -	- - -	m. ch. —
			Arbroath Wellgate Box.	St. Vigeans Junction.	0 30						
					16 17						
GLASGOW AND KILMARNOCK JOINT.	26 28	2 19	Glasgow - -	Kilmarnock -	23 42	—	—	—	- - -	- - -	—
			Lugton Junction -	Barmill - -	2 66						
			Barmill - -	Beith - -	—	—	—	2 19			
					26 28	—	—	2 19			
GLASGOW AND PAISLEY JOINT.	7 52	—	Glasgow -	Paisley - -	6 55	—	—	—	- - -	- - -	—
			Ibrox Junction -	Govan - -	0 77						
					7 52						
GLASGOW AND SOUTH-WESTERN.	239 8	108 42	St. Enoch - -	Clyde Junction -	0 30	—	—	—	- - -	- - -	—
			Stockwell Street -	Saltmarket Junction.	0 16						
			Port Eglinton Junction.	Canal Junction -	2 7						
			Corsebar Junction	Meiklerigg's - -	0 36						
			Potterhill Station	Potterhill Junction.	1 39						
			Paisley Junction	Kilmarnock No. 1 Cabin.	26 54						
			Kilmarnock No 2 Cabin.	Lockerbie Junction.	57 61						
			Pleasance Junction.	Gretna Junction	24 12						
			Arkleston Junction.	Renfrew Wharf -	3 54						
			Elderslie Junction	Greenock (Prince's Pier).	15 26						
			Johnstone Junction.	Cart Junction	0 40						
			Dalry Junction -	Ayr, No. 1 - -	17 36						
			Kilwinning Junction.	Ardrossan Harbour	5 57						
			Dubbs Junction -	Byrehill Junction	0 59						
			Holm Junction -	Fairlie Pier -	9 35						
			Fairlie Pier Junction.	Largs - -	2 29						
			Castlehill Junction.	Parkhouse Junction.	0 21						
			Busby Junction -	Irvine Junction -	5 51						
			Barassie Junction	Kilmarnock Junction.	7 57						
			Barassie Junction	Lochgreen Junction (Troon Loop Line).	2 19						
			Newton Junction	Mauchline Junction.	10 68						
			Hawkhill Junction.	Blackhouse Junction.	0 22						
			Ayr South Cabin	Dalrymple Junction.	3 1						
			Dalrymple Junction.	Dalrymple Station	0 74						
			Dalrymple Junction.	Patna - -	—	6 38					
			Dalrymple Station	Maybole Junction	—	—	—	4 0			
			Maybole Junction	Maybole Station -	0 66						
			Maybole Station -	Girvan Junction -	—	—	—	12 10			

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

Worked by Telegraph. — Not on either of the foregoing Systems.					Single Lines of Railway (not included in the foregoing Columns), (1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or portions thereof at one and the same time; or (2.) Worked under the Train Porter System; or (3.) Worked under the Train Staff System.						Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only*	Remarks.
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of: System as above. (1.)	Distance of: Train Porter System. (2.)	Distance of: Train Staff System. (3.) With Tickets.	Distance of: Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
Dundee East Station.	Camperdown Junction.	0 19‡	—	—			—	—	—	—	0 40†	Broughty Junction to Broughty Pier Station.
											5 42†	Elliot Junction to Carmyline.
Camperdown Jn.	Carolina, Port Dundee.	0 30*										* Worked on the electric bell telegraph system, and "Station Yard," principle.
St. Vigeans Junc. Arbroath, South Box.	Arbroath, Wellgate Box.	0 21*										† Worked under system No. 3.
												‡ Worked on the "Station Yard" principle.
		0 70									6 2	
		—	—	—			—	—	—	—	0 76	Kennishead to Spiersbridge.
											0 35	Old Barrhead Line at S. Side Station.
											0 31	Goods Station Branch, Kilmarnock.
											1 62	
		—	—	—			—	—	—	—	0 54	Loops at Paisley.
											0 25	Branch to Paisley Goods Station.
											0 26	Off Govan Branch.
											1 25	
		—	—	—	Patna	Dalmellington	—	—	5 13	—	—	
					Girvan Junction	Girvan Station	—	—	0 30			
					Stranraer Harbour Junction.	Portpatrick	—	—	7 65			
					Stranraer Harbour Junction.	Stranraer Harbour	—	—	0 79			

Time Interval.

From.	To.	Double line.
		m. ch.
Kilmarnock No. 1.	Kilmarnock No. 2.	0 28
Lockerbie Jn.	Pleasance Jn.	0 22
Ayr No. 1	Ayr No. 2	0 29
		0 79

0 8	Corkerhill Branch.
0 30	Branch to Ferguslie Fire Clay Works.
0 27	Branch to Renfrew Harbour.
0 27	Paisley Goods to Abercorn Station.
0 28	Cart Junction to Cartside Station.
0 53	Cartside Junction to North Johnston Station.
0 18	Branch to Shanks Works.
0 57	Linwood Branch.
0 16	Clippens Branch.
1 73	Garvel Dock Line.
0 22	Greenock Harbour Branch.
1 59	Swinlees Branch.
1 53	Blair Branch.§
3 70	Douro Branch, Blacklands Junction to Terminus at 26, Fergushill Pit.
0 55	Ardeer Ironworks Branch.§
1 2	Nobels Branch.§
0 38	Ardrossan Branch to West Breakwater.

§ Only worked over.

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under Worked by Telegraph - - - - - - - - -									
			On the Absolute Block System.						On the Permissive Block System.			
						Distance of Single Line.						
	Consisting of Two or more Line of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
SCOTLAND—*continued.*												
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
GLASGOW AND SOUTH-WESTERN —*continued.*			Girvan Junction -	Challock Junction	—	30 48					
			Holehouse Junction.	Belston Junction	—	6 9					
			Drongan - -	Annbank No. 2 -	—	—	—	4 53			
			Monkton Junction	Mossblown Junction.	—	—	—	3 10			
			Annbank No. 1 -	Annbank No. 2 -	0 21						
			Hurlford Junction	Newmilns - -	5 40						
			Auchinleck Junction.	Muirkirk - -	10 11						
			Muirkirk Junction with Cal. Co.		—	—	—	0 30			
			Cumnock Junction	Logan Junction -	0 27						
			Cronberry Junction.	Drongan - -	—	11 42					
			Castle Douglas Jn., Dumfries.	Dalbeattie - -	14 37						
			Dalbeattie - -	Castle Douglas No. 1.	—	—	—	4 65			
			Castle Douglas No. 1.	Castle Douglas No. 2.	0 23						
			Castle Douglas No. 2.	Kirkcudbright -	—	10 30					
GLASGOW CITY UNION.	—	—	Springburn -	Pollok Junction -							
PORTPATRICK AND WIGTOWNSHIRE.	—	—	Castle Douglas -	Junction with Wigtownshire Joint Line.							
			Junction with Wigtownshire Joint Line.	Challoch Junction							
			Challoch Junction	Stranraer Harbour Junction.							
			Newton Stewart Junction.	Whithorn -							
			Millisle - -	Garlieston -							
GLASGOW, PAISLEY, AND KILMARNOCK JOINT.	—	—	Gorbals Junction	Kilmarnock Junction.							
			Lugton Junction	Barrmill Junction							
			Ibrox Junction -	Govan - -							
			Glasgow - -	Paisley - -							
			Barrmill Junction	Beith - -							
					238 9	65 7	—	29 8			
GREAT NORTH OF SCOTLAND.	35 13	278 19	Aberdeen - -	Elgin viâ Grange (S. Junc.) and Buckie.	27 46	—	34 29	25 24†			—
			Grange (South Junction).	Elgin viâ Craigellachie.	—	—	27 90	4 27††			
			Grange Station -	Grange North Junction.	—	—	0 56				
			Dyce - -	Peterhead - -	—	—	37 70				
			Maud Junction -	Fraserburgh -	—	—	16 14				
			Kintore - -	Alford - -	—	—	15 68				
			Inveramsey - -	Macduff - -	—	—	29 67				
			Tillynaught Junction.	Banff - -	—	—	6 5				
			Lossie Junction -	Lossiemouth -	—	—	4 38				
			Craigellachie -	Boat of Garten -	—	—	33 46				
			Ferryhill - -	Ballater - -	6 73	—	35 64				
			Aberdeen - -	Ferryhill - -	0 54						
					35 13	—	242 67‡	29 51			

OF OTHER RAILWAYS WORKED BY THEM.

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			Distance of Single Line.				Distance of					
From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	From	To	System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.) With Tickets.	Train Staff System. (3.) Without Ticket.		
		m. ch.	m ch.	m. ch.			m. ch.	m ch.	m. ch.	m. c.h	m. ch.	
											0 66	Irvine Harbour Branch.
											0 32	Irvine Harbour. Branch along New Quay.
											0 31	Irvine Chemical Branch.*
											0 60	Perceton Branch.
											0 18	Busbie Colliery Branch.*
											2 6	Barassie Junction to Troon Harbour.
											1 35	Fairlie Branch, Troon Line.
											0 13	Troon Harb. Termination of K. and T. Ry. at store to end of West Breakwater.
											0 51	Troon Harb. K. & T. Ry., near Temple Hill, along East Breakwater.
											0 64	Templehill Junction and St. Meddans Junction.
											0 64	Falkland Junction to Ayr Goods Station.
											0 9	Newton Lodge Junction Line.
											0 20	Old Harbour Branch, Ayr.
											0 58	New Harbour Branch, Ayr.
											1 2	Ayr Dock Lines, Nos. 1 to 4.
											0 30	Maybole Jn. to Maybole Goods Station.
											0 14	Branch to Girvan Harbour.
											1 37	Mayfield Branch.
											1 24	Mayfield Branch.*
											0 35	Goatfoot Branch.*
											0 24	Montgomery Quarry Branch.*
											0 37	Rankinston Branch.
											2 30	Dykes Branch.*
											0 36	Lugar Junction to Lugar Ironworks.
											1 24	Gasswater Branch.
											2 0	Gilmilnscroft Branch.
											0 35	South Side to Langside Junction.
											0 31	Goods Station Branch at Kilmarnock.
											0 76	Thornlie Bank Branch.
											0 27	Victoria Pit Branch (horse).
											0 18	Woodhill Branch.
											0 19	Bellahouston Junction.
											0 15	Garliestown to Garliestown Harbour.
							—	—	14 27	—	38 77	* Only worked over.
—	—	—	—	—	Inverurie	Old Meldrum	5 61	—	—	—	—	†From Portsoy to Lossie Junction. ††From Drummuir to Dufftown.
							5 61					‡ These lines are worked under the system in which only one engine in steam or two or more engines coupled together are allowed to be on the single line or portions thereof, at one and the same time.

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			Worked by Telegraph									
			On the Absolute Block System.						On the Permissive Block System.			
						Distance of Single Line.						
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
SCOTLAND—*continued.*												
HIGHLAND	m. ch. 6 65	m. ch. 419 42	Inverness	Dalcross	m. ch. 6 65	m. ch. —	m. ch. —	m. ch. —			m. ch. —
			Buckie	Portessie	—	—	—	1 38				
NORTH BRITISH	469 22	404 60	Edinburgh East	Granton	3 60	—	—	—	Manuel	Kinneil	3 31*
			Lochend Junction	London Road Junction.	0 27				Blackston Junction.	Avonbridge	0 51*
			Bonnington (S. Junction).	North Leith	0 73						
			Bonnington (N. Junction).	Bonnington (East Junction).	0 17						
			Easter Road Junction.	Piershill Junction	0 77						
			Abbeyhill Junction	Berwick N.E.	56 43						
			Newhailes Junction.	Musselburgh	0 79						
			Glenesk Junction	Dalkeith	0 30						
			Portobello East Junction.	Galashiels North	30 8						
			Galashiels (Central).	Carlisle No. 1	64 3						
			St. Boswells, Kelso Junc.	Jn. with N.E. Ry. near Sprouston.	12 43						
			Hardengreen Junction.	Hawthornden Junction.	3 21						
			Niddrie West Junction.	Niddrie South Junction.	0 59						
			Niddrie West Junction.	Niddrie East Junction.	1 32						
			Haymarket West Junction.	Gorgie Junction	0 40						
			Haymarket Central Junction.	Niddrie North Junction.	6 66						
			Polmont Junction	Grahamston (East)	3 2						
			Grahamston West	Larbert Junction	2 13						
			Edinburgh West	Polmont Station	22 9						
			Polmont Junction	Cowlairs West Junction.	22 72						
			Cowlairs Station	Glasgow (Queen Street).	1 40						
			Cowlairs West Junction.	Sighthill C.U. Junction.	0 50						
			Cowlairs East Junction.	Cowlairs North Junction.	0 18						
			Cowlairs West Junction.	Balloch Pier	18 78						
			Dalreoch Tunnel	Helensburgh	6 78						
			Knightswood N. Junction.	College East C.U. Junction.	5 56						
			Bridgeton Cross N. Junction.	Bridgeton Cross	0 67						
			Partick Junction	Hyndland	0 74						
			Knightswood S. Junction.	Maryhill West Junction.	0 69						
			Lenzie Junction	Blane Valley Junction.	5 5						
			Kelvin Valley West Junction.	Kelvin Valley East Junction.	0 29						
			Glasgow (Bellgrove).	Caldercruix	14 29						
			Sunnyside Junction.	Bothwell Junction	6 19						
			Greenside Junction.	Foot of Ballochney Incline.	0 56						
			Shettleston Junction.	Hamilton	7 45						
			Bathgate Junction (Ratho).	Polkemmet Junction.	10 47						
			Rawyards East	Arbuckle	1 40						
			Gartsherrie N.E. Junction.	Garnqueen Junction.	0 41						

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

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Not on either of the foregoing Systems.							Distance of					
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	System as above. (1.)	Train Porter System. (2.)	Train Staff System, (2.) With Tickets.	Train Staff System, (2.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
- - - - -		—	—	—	Dalcross - -	Stanley - - -	129 72	—	—	—	—	
					Inverness - -	Wick - - -	161 7					
					Forres - -	Keith - - -	30 27					
					Georgemas - -	Thurso - - -	6 52					
					Dingwall - -	Strome Ferry -	53 6					
					Keith - - -	Buckie - - -	12 0					
					Alves - -	Hopeman - - -	7 5					
					Ballinluig - -	Aberfeldy - -	8 59					
					Fodderty Junction	Strathpeffer -	2 40					
					Aviemore - -	Carr Bridge - -	6 56				0 57½	From Inverness to Caledonian Canal
											0 45	From Inverness to Harbour.
							418 4					
- - - - - -		—	—	—	Rawyards East -	Rawyards West -	—	0 21	—	—	—	* Single line. "Permissive block" as regards goods, mineral, and ballast trains, but "absolute block" for passenger trains.
					Seafield Junction	South Leith Station.	—	0 69				
					Esk Valley Junction.	Polton - - -	—	—	2 8			
					Millerhill Junction	Roslin - -	—	—	5 69			
					Hawthornden Junction.	Penicuick - -	—	—	4 31			
					Leadburn Junction	Dolphinton - -	—	—	9 70			
					Hawthornden Junction.	Leadburn Junction	—	—	6 20			
					Peebles - -	Kilnknowe Junction.	—	—	17 35			
					Monktonhall Junction.	Smeaton Junction	—	—	1 39			
					Smeaton Junction	Macmerry - -	—	—	6 54			
					Longniddry Junction.	Haddington -	—	—	4 60			
					Drem Junction -	North Berwick -	—	—	4 60			
					Reston Junction -	Ravenswood Junction.	—	—	29 26			
					Selkirk Junction, Galashiels.	Selkirk - - -	—	—	5 14			
					Roxburgh Junction.	Jedburgh - -	—	—	7 8			
					Riddings Junction	Langholm - -	—	—	7 8			
					Longtown Junction.	Gretna - - -	—	—	3 27			
					Drumburgh - -	Port Carlisle -	—	—	2 54			
					Canal Junction -	Kirkbride Junction.	—	—	11 79			
					Abbey Junction -	Silloth - - -	—	—	22			
					Riccarton Junction.	Hexham Junction	—	—	40 71			
					Reedsmouth Junction.	Morpeth, N.E. Station.	—	—	25 10			
					Scotsgap Junction	Rothbury - -	—	—	13 4			
					Broomfield Junction.	Bervie - - -	—	—	12 8			
					Leuchars South Junction.	St. Andrews (Links).	—	—	4 57			
					Ladybank - -	Mawcarse Junction	—	—	11 23			
					Cambus Junction	Alva - -	—	—	3 45			
					Queensferry Jn. (Ratho).	Dalmeny South Junction.	—	—	4 6			
					Milngavie Junction.	Milngavie - -	—	—	3 15			

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under								
			Worked by Telegraph								
			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
SCOTLAND—*continued.*											
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
NORTH BRITISH—*continued.*			Winchburgh Junction (Lower).	Dalmeny North Junction.	4 32						
			Inverkeithing East Junction.	Inverkeithing North Junction.	0 23						
			Corstorphine Junction.	Townhill Junction	15 12						
			Touch South Junction.	Touch North Junction.	0 34						
			Inverkeithing Central Junction.	Tayport North -	42 53						
			Leuchars (North Junction).	Camperdown Junction.	9 28						
			Dundee Central Junction.	Buckingham Junction.	0 18						
			Ladybank North	Hilton Junction -	16 54						
			Montrose South Junction.	Montrose North Junction.	0 32						
			Hillside - -	Kinnaber Junction	0 38						
			Thornton South Junction.	Thornton West Junction.	0 21						
			Thornton Central Junction.	Dunfermline (East).	14 71						
			Dunfermline (West).	Shore Road, L. C. Stirling.	20 1						
			Alloa West Junction.	Longcarse Junction.	0 45						
			Alloa East - -	Tillicoultry - -	3 16						
			Cowdenbeath Junction.	Bridge of Earn Junction.	23 0						
			Roslin - - -	Glencorse - -	—	2 1					
			Blane Valley Junction.	Gartness Junction	—	11 16					
			Markinch Junction	Leslie - -	—	4 17					
			Buchlyvie Junction.	Aberfoyle - -	—	5 32					
			Maryhill East Junction.	Kilsyth - -	—	11 19					
			Montrose North Junction.	Broomfield Junction.	—	0 54					
			Leadburn - -	Peebles (Caledonian Junction).	—	—	10 23				
			KirkbrideJunction	Abbey Junction -	—	—	3 73				
			Manuel - - -	Blackston Junction.	—	—	4 30				
			Avonbridge -	Slamannan -	—	—	3 35				
			Ballochney (Incline Foot).	Rawyards - -	—	—	1 18				
			Slamannan -	Arbuckle - -	—	—	—	4 71			
			Polkemmet Junction.	Blackstone Junction.	—	—	—	4 65			
			Polkemmet Junction.	Morningside -	—	—	—	13 53			
			Thornton North Junction.	Anstruther New Signal Box.	—	—	—	18 40			
			Tillicoultry -	Kinross Junction	—	—	—	13 50			
			Kinniel - -	Boness - -	—	—	—	0 64			
			St. Vigeans Junction.	Montrose South Junction.	—	—	—	12 56			
			Montrose North Junction.	Hillside - -	—	—	—	1 50			
			Dalreoch Junction	Dalreoch Tunnel	—	—	—	0 50			
			Polkemmet Junction.	Caldercruix -	—	—	—	9 54			
			Thornton East Junction.	Methil - - -	—	—	—	5 18			
			Portobello -	Seafield Junction	—	—	—	1 76			
Lines Worked:											
Anstruther and St. Andrews.	—	16 2	Anstruther New Signal Cabin.	St. Andrews (Links.)	—	16 2					
Forth and Clyde - -	—	29 74	Stirling New Bridge Level Crossing.	Buchlyvie Junction.	—	—	15 18				
			Gartness Junction	Drymen - -	—	—	1 66				
			Jameston - -	Balloch (Forth and Clyde) Jn.	—	—	0 47				
			Buchlyvie - -	Gartness Junction	—	—	—	6 17			
			Drymen - -	Jamestown -	—	—	—	6 6			
Glasgow, Yoker, and Clydebank.	—	3 30	Whiteinch Junction.	Clydebank -	—	3 30					
Newport - - -	—	4 66	Tayport - -	Tay Bridge South	—	—	—	4 66			
Eyemouth - -	—	2 71	- - -	- - -	—	—	—	—			—
Total - -	469 22	461 63			469 22	54 11	40 70	105 16			4 2

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

- - Worked by Telegraph.					Single Lines of Railway (not included in the foregoing Columns), (1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or Portions thereof at one and the same time; or (2.) Worked under the Train Porter System; or (3.) Worked under the Train Staff System.						Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only*.	Remarks.
Not on either of the foregoing Systems.												
From	To	Distance of Double Line.	Distance of Single Line.		From	To	Distance of					
			Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.			System as above. (1.)	Train Porter System. (2.)	Train Staff System. (3.)			
									With Tickets.	Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
—	—	—	—	—	Burnmouth -	Eyemouth	—	—	—	2 71		
								1 10	253 43	2 71	121 53	* *See* note p. 79.

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under WORKED BY TELEGRAPH - - - - - - - -								
			On the Absolute Block System.			Distance of Single Line.			On the Permissive Block System.		
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
SCOTLAND—*continued.*											
NORTH BRITISH—*continued.*	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
			Mineral Lines.								
			Sunnyside Junction.	Gunnie - -	0 25						
			Brownieside Junction.	Rawyards -	—	—	1 43				
			Westcraigs - -	Blackhall - -	—	—	7 19				
			Langloan Junction.	Langloan Ironworks.	—	—	0 32				
			Blantyre Junction	Blantyre Pits -	—	—	1 14				
			Trinity Junction -	Warriston Junction.	—	—	0 51				
			Bonnington (East)	Warriston Junction.	—	—	0 47				
			Charlestown Junction.	Charlestown -	—	—	3 42				
			Alloa Central Junction.	New Harbour Branch Junc.	—	—	0 29				
			Townhill Junction.	Lassodie Junction	—	—	4 22				
			Elgin Crossing -	Lilliehill Junction	—	—	1 63				
			Lumphinnans Junction.	Kelty South Junction.	—	—	2 0				
			Avenuchead -	Garngaber High Junction.	—	—	—	3 30			
			Thornton East -	Thornton West Junction.	—	—	—	0 31			
					0 25	—	23 42	3 61			
			New Block Telegraphs complete or in progress but not in practical operation.								
			(*See* page 102.)								
PORTPATRICK AND WIGTOWNSHIRE.	- -	81 79	Newton Stewart -	Whithorn - -	—	19 21	—	—	- - -	- - -	—
			Stranraer - -	Castle Douglas -	—	—	—	53 31			
			Stranraer Harbour Junction.	Stranraer Harbour	—	0 78					
					—	20 19	—	53 31			

OF OTHER RAILWAYS WORKED BY THEM.

the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

Worked by Telegraph. Not on either of the foregoing Systems.					Single Lines of Railway (not included in the foregoing Columns). (1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or portions thereof at one and the same time; or (2.) Worked under the Train Porter System; or (3.) Worked under the Train Staff System.						Length of the Portion of Company's Railway and of other Railways worked by them for Goods and Mineral Traffic only.	Remarks.
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked without the Train Staff System.	From	To	Distance of System as above. (1.)	Distance of Train Porter System. (2.)	Distance of Train Staff System. (3.) With Tickets.	Distance of Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
Mineral Lines.					*Mineral Lines.*							
Interval of Time.					Bonnington New Branch		0 7					*Under System (3).*
Canal Junction.	Carlisle Canal Stn.	0 47			Glencorse	Penicuick Gas Co.'s Works.	0 57					With tickets.
Cowlairs W. Jn.	Sighthill	1 27			Kirkcaldy Harbour Branch		0 51				1 50	St. Leonard's Branch.
Low Level Line at Stobcross.		0 47			Lochore Branch		1 5				0 44	Caledonian Junction. | Caledonian Station, Peebles.
Gunnie	Gartsherrie, North British Jn.	0 48			Dalmonach Branch		0 62				2 72	Smeaton Junction. | Hardengreen.
Garnqueen Junction.	Avenuehead.	1 75			Port Edgar Branch		0 71				0 39	Whifflet Junction. | Calder Ironworks. signal-box.
Bridgeness	Branch	0 72			Kirkliston Distillery Siding		0 20				0 58	Elgin Crossing. | Whitemyre
		5 76			Hartwoodhill Branch		1 45				4 4	Lilliehill | Steel End.
					Castlehill Branch Junction.	Hyndshaw Pit Sidings.	1 60				2 25	Kelty Junction. | Lassodie Junction.
					East Benhar Branch		1 69				2 2	North Queensferry Branch.
					Blackbraes Branch		4 15				0 58	Bo'ness Junction. | Blackbraes Junction.
					Dykehead and Raebog Branches		5 14				1 41	Dalmeny South Jn. | S. Queensferry.
					Thrushbush Branch		1 39				3 51	Uphall | Torrance's Quarry.
					Bowhouse Branch		1 61				1 32	Calderbank Branch Jn. | Howlet's Nest.
					Bellsdyke Branch, No. 1		0 40				1 57	Addiewell Junction. | Addiewell.
					Springbank Branches		1 26					
					West Calder Branch		2 4					Without tickets.
					Ballochney Branch		0 59				1 21	Tranent Branch.
					Heathery Knowe Branch		0 79				0 37	Inverkeithing Harbour Branch.
					Gartness Branch		1 7				0 70	Elgin Crossing. | Lochhead.
					Ruchill Branch		0 67				0 71	Cameron Bridge. | Cameron Pits Jn.
					Woodend Branch		0 76				0 52	Leven Dock Branch.
					Crosscroes Branch		0 46				0 51	New Alloa Harbour Branch.
					Dillichip Branch		0 64				1 23	Camelon Branch.
					Earnock Branch		0 52				0 42	Rough Castle Signal-box. | Asphalte Ponds Junction.
					Newmains Junction.	Coltness Iron Works.	0 18				0 40	Commonhead. | Airdie North.
					Exchange Sidings	Coltness Iron Works.	0 32				0 46	Auchenraith Branch.
					Drumshoreland	Broxburn Oil Works.	—	1 50			0 48	Calder Ironworks. | Head of Palace Craig Branch.
					Warriston Junction.	Scotland Street	—	0 30			0 60	Broxburn Junction. | Albion Oil-works.
					Cameron Pits Junction.	Muiredge	—	0 42			1 19	Whiteinch Junction. | Whiteinch.
					Blairadam Branch		—	0 59			0 48	Bellsdyke Branch No. 2.
					Middlemuir Junction.	Garngaber Low Junction.	—	1 50			7 20	Sun Tube Works Siding. | Broadrigg Siding.
					Woodley's Lye	Canal Basin, Kirkintilloch.	—	0 73			0 14	Netherton Siding. | End of Knightswood Branch.
					Broadrigg Siding	North Monkland Junction.	—	1 9				
					Springfield Branch		—	0 10				
					Armadale Branch		—	0 66				
					Langloan Junction.	Point of entrance to Sheepford Branch.	—	0 11				
					Souterhouse Branch		—	0 44				
					Kipps Junction	Sun Tube Works	—	0 42				
					Hyndshaw Pit Sidings.	Castlehill Goods Shed.	—	1 8				
					Coltness Branch		—	0 67				
					Port Dundas Branch		—	0 55				
					Asphalte Ponds Junction.	End of Rough Castle Branch.	—	0 28				
					Knightswood South Junction.	Netherton Siding	—	0 65			41 75	
							33 26	12 68			121 53	Total of Mineral Lines.
		—	—	—	Portpatrick	Stranraer	—	—	—	7 31		
					Millisle	Garliestown	—	—	—	0 78		
							—	—	—	8 29		

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under										
			Worked by Telegraph										
			On the Absolute Block System.						On the Permissive Block System.				
						Distance of Single Line.							
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.		
IRELAND.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.		
BALLINASCARTHY, &c.	—	9 0	- - -	- - -	—	—	—	—	- - -	- - -	—		
BALLYCASTLE - -	—	16 10	Ballymoney -	Ballycastle - -	—	16 10	—	—	- - -	- - -	—		
BELFAST AND COUNTY DOWN.	7 20	68 30	Belfast -	Holywood - -	4 40	—	—	—	- - -	- - -	—		
			Holywood -	Bangor - -	—	7 60							
			Belfast - -	Knock - -	2 60	—							
			Knock - -	Comber - -	—	5 20							
			Comber - -	Newtownards -	—	—	—	5 40					
			Newtownards -	Donaghadee -	—	8 40							
			Comber - -	Ballygowan -	—	—	—	4 0					
			Ballygowan -	Newcastle -	—	26 0							
			B. H. Junction -	Ballynahuich -	—	3 40							
			Downpatrick -	Loop Line (near)	—	—	0 30						
			Downpatrick -	Ardglass - -	—	7 40							
					7 20	58 40	0 30	9 40					
BELFAST AND NORTHERN COUNTIES.	33 20	166 1	Belfast - -	Ballymena Passenger Station.	33 20	—	—	—	- - -	- - -	—		
			Carrick Junction	Larne Town -	—	—	—	16 49					
			King's Bog - -	Ballyclare -	—	3 44							
			Cookstown Junc.	Cookstown - -	—	28 47							
			Ballymena -	Parkmore - -	—	14 1†							
			Ballymena -	Larne Harbour -	—	25 34†							
			Ballymena -	Eglinton - -	—	—		54 7					
			Doagh - -	Ballyboley - -	—	5 73†							
			Eglinton - -	Derry - -	—	7 45							
			Coleraine - -	Portrush - -	—	—	—	6 2					
			Limavady Junc. -	Limavady - -	—	3 19							
Derry Central -	—	29 22	Magherafelt -	Macfin Junction -	—	29 22							
Limavady and Dungiven.	—	10 25	- - -	- - -	—	—	—	—	- - -	- - -	—		
Draperstown -	—	6 50	Draperstown Junc.	Draperstown -	—	6 50							
	33 20	212 18			33 20	124 15		76 18					
CASTLEDERG AND VICTORIA BRIDGE.	—	7 0	- - -	- - -	—	—	—	—	- - -	- - -	—		
CAVAN, LEITRIM, AND ROSCOMMON LIGHT.	—	48 39	Belturbet -	Dromod - -	—	33 62	—	—	- - -	- - -	—		
			Ballinamore -	Drumshambo -	—	12 16							
						45 78							
CLOGHER VALLEY -	—	37 0	- - -	- - -	—	—	—	—	- - -	- - -	—		
CORK AND MACROOM DIRECT.	—	24 40	- - -	- - -	—	—	—	—	- - -	- - -	—		
CORK AND MUSKERRY LIGHT.	—	18 0	- - -	- - -	—	—	—	—	- - -	- - -	—		
CORK, BANDON, AND SOUTH COAST.	—	93 24	Clonakilty Junc.	Clonakilty - -	—	8 64	—	—	- - -	- - -	—		
			Skibbereen - -	Baltimore -	—	—	—	8 0					
			Cork - -	Bandon - -	—	—	—	20 0					
			Bandon -	Dunmanway -	—	—	—	17 60					
			Kinsale Junction	Kinsale -	—	—	—	10 60					
			Dunmanway -	Skibbereen -	—	—	—	15 60					
			Drimoleague -	Bantry - -	—	—	—	12 20					
					—	8 64	—	84 40					
CORK, BLACKROCK, AND PASSAGE.	—	6 37	Cork - -	Passage - -	—	6 37	—	—	- - -	- - -	—		

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the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

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		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	
- -	- -	—	—	—	Ballinascarthy -	Courtmacsherry -	9 0	—	—	—	—	
- -	- -	—	—	—	- - -	- - -	—	—	—	—	—	
- -	- -	—	—	—	- -	- - -	—	—	—	—	—	
-	- -	—	—	—	Larne Town -	Larne Harbour -	—	—	—	1 0	—	† Narrow gauge.
- -	- -	—	—	—	Limavady - -	Dungiven - -	10 25					
							10 25	—	—	1 0		
- -	- -	—	—	—	-	- - -	7 0	—	—	—	—	
- -	- -	—	—	—	Drumshambo -	Arigna - -	2 41	—	—	—	—	
- -	- -	—	—	—	Tynan - -	Maguires Bridge	—	—	37 0‡	—	—	‡ Telephonic communication is always made when a train proceeds with a ticket.
- -	- -	—	—	—	Cork - -	Macroom - -	—	—	24 40	—	—	
Cork -	Junction -	—	6 20§	—	- - -	- - -	—	—	—	—	—	§ Worked by telephone communication.
Junction	Dripsey -	—	5 0§									
Dripsey -	Coachford	—	4 20§									
Junction	Blarney -	—	2 40§									
		—	18 0	—				—	—			
- -	- -	—	—	—	- - -	- - -	—	—	—	—	—	
-	- -	—	—	—	- - -	- - -	—	—	—	—	—	

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under									
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IRELAND—*continued.*												
	m. ch.	m. ch.			m. ch.	m. ch.	m. ch.	m. ch.			m. ch.
DONEGAL.	—	13 18	- - -	- - -	—	—	—	—	- - -	- - -	—
Section I. - -	—	18 0									
Section II.		31 18									
DUBLIN, WICKLOW, AND WEXFORD.	29·20	115 78	Dublin - -	Bray - - -	12 20	—	—	—	- - -	- - -	—
			Amiens Street -	Killiney - -	11 20						
			Killiney - -	Bray - -	—	—	—	3 20			
			Newcastle -	Wicklow - -	5 60						
			Palace - -	New Ross - -	—	8 0					
					29 20	8 0	—	3 20			
DUNDALK, NEWRY, AND GREENORE.*	—	26 77	Dundalk - -	Barrack Street, Greenore.	—	12 77	—	—	- - -	- - -	—
			Newry - -	Greenore - -	—	14 0					
						26 77					
GREAT NORTHERN -	137 16	382 21	Dublin - -	Belfast - -	112 40	—	—	—	- - -	- - -	—
			East Wall Junction	Cabin A. - -	0 20						
			Howth Junction -	Howth - -	1 74	—	—	1 57			
			Drogheda - -	Oldcastle - -	—	—	—	39 40			
			Scarva - -	Banbridge -	—	—	—	6 47			
			Dundalk - -	Enniskillen -	—	—	—	63 0			
			Enniskillen -	Londonderry -	—	—	—	59 31			
			Portadown Junctn.	Omagh - -	—	—	—	41 20			
			Portadown Junctn.	Cavan - -	22 42	—	—	31 58			
			Knockmore Junction.	Antrim - -	—	—	—	18 40			
			Knockmore Junction.	Banbridge -	—	—	—	15 0			
			Armagh - -	Warrenpoint -	—	—	—	27 60			
			Dungannon Junction.	Cookstown - -	—	13 54					
					137 16	13 54	—	304 33			
GREAT SOUTHERN AND WESTERN.											
Northwall to Queenstown.	182 77	—	North Wall - -	Kingsbridge -	5 37	—	—	—	- - -	- - -	—
Sallins to Naas -	2 0	—	Kingsbridge -	Queenstown -	176 68						
Naas to Tullow -	—	32 40	Sallins - -	Naas - -	2 0						
Cherryville Junction to Carlow.	23 18	—	Naas - -	Tullow - -	—	—	—	Staff. 32 40			
Carlow to Kilkenny -	—	24 75	Cherryville Junction.	Carlow - -	23 18						
Bagnalstown to Ballywilliam.	—	20 60	Carlow - -	Kilkenny - -	—	—	—	Staff. 24 75			
Portarlington to Athlone.	—	39 8	Bagnalstown -	Ballywilliam -	—	—	—	Staff. 20 60			
Ballybrophy to Birdhill.	—	42 41	Portarlington -	Athlone - -	—	—	—	Staff. 39 8			
Roscrea to Parsonstown.	—	11 73	Ballybrophy -	Nenagh - -	—	—	—	Staff. 29 48			
Charleville Junction to Limerick.	—	25 10	Roscrea - -	Parsonstown -	—	—	—	Staff. 11 73			
Mallow to Fermoy -	—	16 61	Charleville Junction.	Patrickswell -	—	—	—	Staff. 17 50			
Mallow to Tralee -	—	62 20	Mallow - -	Tralee - -	—	—	—	Staff. 62 20			
Banteer to Newmarket.	—	8 60	Farranfore - -	Killorglin -	—	—	—	Tablet. 12 34			
Gortatlea to Castleisland.	—	4 29	Mallow - -	Fermoy - -	—	—	—	Staff. 16 61			
Farranfore to Killorglin.	—	12 34	Queenstown Junction.	Youghal - -	—	—	—	Staff. 20 59			
Queenstown Junction to Youghal.	—	20 57									
	208 15	322 8			207 43	—	—	288 48			
Lines Worked:											
Fermoy to Lismore -	—	15 21	- - -	- - -	—	—	—	—	- - -	- - -	—
Fermoy to Mitchelstown.	—	11 35	Fermoy - -	Mitchelstown -	—	—	—	Staff. 11 35			
Clara Junction to Banagher.	—	17 30	Clara - -	Banagher - -	—	18 61					
	—	44 6			—	18 61	—	11 35			

* Extracted from the London and North-Western Railway Company's return.

OF OTHER RAILWAYS WORKED BY THEM.
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		m. ch.	m. ch.	m. ch.			m. ch.	m. ch.	m. ch	m. ch.	m. ch.	
- - - -		—	—	—	Strabane Junction -	Stranorlar -	13 18	—	—	—	—	
					Stranorlar -	Lough Eske -	14 0					
					Lough Eske -	Donegal - -	4 0					
- - - -		—	—	—	Bray - -	Newcastle -						
					Wicklow - -	Wexford - -	—	—	101 0*	—	—	* This line has now been supplied with Webb and Thomson's instruments.
					Woodenbridge -	Shillelagh -						
					Macmine - -	Palace East -						
					Carlisle Pier - - - - -		—	0 18				
					Palace East -	Ballywilliam -	3 40					
- - - -		—	—	—	- - -	- - -	—	—	—	—	—	
- - - -		—	—	—	Bundoran Line -	- - -	—	—	35 48	—	3 50	Belfast Central Railway.
					Fintona Branch -	- - -	0 53					
					Shantona Junction	Cootehill - -	7 45					
					Banbridge -	Ballyroney -	9 33					
					Ballyhaise -	Belturbet - -	4 20					
					Inniskeen -	Carrickmacross -	6 55					
							28 46	—	35 48	—	3 50	
All trains on single and double lines are telegraphed from station to station during the hours the telegraph offices are open at the several stations.					Patrickswell -	Limerick - -	—	—	7 40			
					Gortatlea - -	Castleisland -	4 29					
					Nenagh - -	Birdhill - -	—	—	12 73			
					Banteer - -	Newmarket -	8 60					
							13 9	—	20 33			
Telegraphed from station to station during the hours the telegraph offices are open at the several stations.					Fermoy - -	Lismore - -	—	—	15 21	—	—	

Railway Company.	Total Length of the Company's Railway open *for Passenger Traffic*, and of all other Railways open *for Passenger Traffic* which are worked by them.		PORTIONS OF THE COMPANY'S RAILWAYS, OR (Where the System is not continuous, enter separately one under the other, under Worked by Telegraph - - - - - -								
			On the Absolute Block System.						On the Permissive Block System.		
						Distance of Single Line.					
	Consisting of Two or more Lines of Rails.	Consisting of a Single Line of Rails only.	From	To	Distance of Double Line.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	From	To	Distance of Double Line.
IRELAND—*continued*.											
LONDONDERRY AND LOUGH SWILLY.	m. ch. —	m. ch. 32 0	Londonderry -	Tooban Junction	m. ch. —	m. ch. 6 0	m. ch. —	m. ch. —	- - -	- - -	m. ch. —
MIDLAND GREAT WESTERN OF IRELAND.	160 69	292 18	Broadstone -	Ballinasloe - -	91 53	—	—	—	- - -	- - -	—
			Ballinasloe -	Oranmore - -	—	—	—	29 53			
			Liffey Junction -	West Road Junction.	2 38						
			Oranmore - -	Galway - -	5 9						
			Attymon - -	Loughrea - -	—	—	—	9 0			
			Nesbit Junction -	Edenderry	—	—	—	9 32			
			Streamstown -	Clara - -	—	—	—	7 33			
			Mullingar - -	Longford - -	26 13						
			Ballymote -	Collooney -	—	7 50					
			Collooney - -	Sligo - -	5 32	1 8					
			Longford - -	Ballymote -	—	—	—	43 64			
			Athlone - -	Roscommon - -	18 0						
			Inny Junction -	Cavan - - -	—	—	—	24 65			
			Roscommon -	Manalla Junction	—	—	—	49 40			
			Clonsilla Junction.	Drumree - -	11 58						
			Drumree - -	Navan Junction -	—	—	—	11 59			
			Kilmessan - -	Athboy - -	—	—	—	12 12			
			Navan Junction -	Kingscourt - -	—	—	—	19 47			
					160 43	8 58	—	217 15			
SLIGO, LEITRIM, AND NORTHERN COUNTIES.	—	42 53	Enniskillen - -	Carrignagat Junction.	—	42 53	—	—	- - -	- - -	—
WATERFORD AND CENTRAL IRELAND.	—	31 0	- - -	- - -	—	—	—	—	- - -	- - -	—
Kilkenny Junction.	—	28 32	- - -	- - -	—	—	—	—	- - -	- - -	—
Central Ireland -	—	6 63	- - -	- - -	—	—	—	—	- - -	- - -	—
		66 15									
WATERFORD AND LIMERICK.	31 60	252 20	Waterford -	Fiddown - -	10 0	—	—	—	- - -	- - -	—
			Newcastle -	Tralee - -	—	43 0					
			Tralee - -	Fenit - -	—	8 0					
			Clonmel -	Thurles - -	—	25 40					
					10 0	76 40					
WATERFORD AND TRAMORE.	—	7 20	- - -	- - -	—	—	—	—	- - -	- - -	—
WATERFORD, DUNGARVAN, AND LISMORE.	—	43 0	Waterford	Lismore - -	—	43 0	—	—	- - -	- - -	—
WEST CARBERY -	—	15 0	- - -	- - -	—	—	—	—	- - -	- - -	—
WEST CLARE -	—	27 0	- - -	- - -	—	—	—	—	- - -	- - -	—

OF OTHER RAILWAYS WORKED BY THEM.
the Head applicable, each Main Line or Portion of Main Line or Branch Line so worked.)

- - Worked by Telegraph. Not on either of the foregoing Systems.					Single Lines of Railway (not included in the foregoing Columns), (1.) Worked under the System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon the Single Line or portions thereof at one and the same time; or (2.) Worked under the Train Porter System; or (3.) Worked under the Train Staff System.						Length of the Portions of Company's Railway and of other Railways worked by them for *Goods and Mineral Traffic only.*	Remarks.
From	To	Distance of Double Line.	Distance of Single Line. Worked by the Train Staff System in addition.	Distance of Single Line. Worked *without* the Train Staff System.	From	To	Distance of. System as above. (1.)	Distance of. Porter System. (2.)	Distance of. Train Staff System. (3.) With Tickets.	Distance of. Train Staff System. (3.) Without Ticket.		
		m. ch.	m. ch.	m. ch.	Tooban Junction	Buncrana	m. ch. 6 0	m. ch. —	m. ch. —	m. ch. —	m. ch. —	
					Tooban Junction	Letterkenny	20 0					
							26 0					
Navan Jn. (G.N.)	Navan Jn. (N. & K.)	0 26			Kilfree	Ballaghadareen	—	—	—	9 36		
					Crossdoney	Killeshandra	7 3					
					Manulla Junction	Castlebar	—	—	4 5			
					Castlebar	Westport Quay	—	—	12 69			
					Manulla	Ballina	—	—	20 32			
					Claremorris	Ballinrobe	12 40					
					Sligo	Sligo Quay	—	—	—	—	0 60	
					Galway Dock	- - -	—	—	—	—	0 16	
		0 26					19 43	—	37 26	9 36	0 76	
- -	- -	—	—	—	- - -	- - -	—	—	—	—	—	
- -	- -	—	—	—	Waterford	Kilkenny	—	—	31 0	—	—	
- -	- -	—	—	—	Kilkenny	Maryborough	—	—	28 32			
- -	- -	—	—	—	Maryborough	Mountmellick	—	—	—	6 63		
									59 32	6 63		
Limerick	Limerick Junction.	21 60	—	—	Fiddown	Limerick Junction	—	—	45 40	—	—	
					Limerick	Foynes	—	—	26 20			
					Limerick	Ennis	—	—	24 60			
					Limerick	Killaloe	—	—	17 20			
					Ballingrane Junction.	Newcastle	—	—	10 0			
					Ennis	Athenry	—	—	36 0			
					Athenry	Tuam	—	—	16 0			
									175 60			
- -	- -	—	—	—	Waterford	Tramore	7 20	—	—	—	—	
- -	- -	—	—	—	- - -	- - -	—	—	—	—	—	
- -	- -	—	—	—	Schull	Skibbereen	—	—	15 0	—	—	
- -	- -	—	—	—	Ennis	Miltown Malbay	27 0	—	—	—	—	

SUMMARY.

Name of Railway Company.	Total Length of Railway open for Passenger Traffic.		Distance worked by Telegraph.					Distance worked by Telegraph, but not on either of the foregoing Systems.			Distance of Single Lines (not included in the foregoing Columns) worked under the following Systems.			
			Absolute Block.								System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon Line or Portions thereof at one and the same Time. (No. 1.)	Train Porter System. (No. 2.)	Train Staff System. (No. 3.)	
				Distance of Single Line.			Permissive Block.		Distance of Single Line.					
	Double.	Single.	Double.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.	Double.	Double.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.			*With* Tickets.	*Without* Ticket.
ENGLAND AND WALES.														
	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch
Barry Dock and Railways	5 5	—	5 5	—	—	—	—	—	—	—	—	—	—	—
Bishop's Castle	—	9 57	—	—	—	—	—	—	—	—	9 57	—	—	—
Brecon and Merthyr Tydfil Junction.	13 67	45 4	13 67	6 20	21 7	16 21	—	—	—	—	—	—	1 36	—
Cambrian	8 56	216 72	8 56	37 66	—	174 76	—	—	—	—	3 55	0 35	—	—
Charnwood Forest	—	10 0	—	10 0	—	—	—	—	—	—	—	—	—	—
Cheshire Lines Committee	118 3	10 1	118 3	10 1	—	—	—	—	—	—	—	—	—	—
Cleator and Workington Junc.	11 15	12 73	11 15	6 43	—	6 30	—	—	—	—	—	—	—	—
Cockermouth, Keswick, and Penrith.	—	31 14	—	18 12	—	13 2	—	—	—	—	—	—	—	—
Colne Valley and Halstead	—	19 0	—	—	—	—	—	—	—	—	—	—	19 0	—
Corris	—	6 40	—	—	—	—	—	—	—	—	6 40	—	—	—
Dover and Deal	8 28	—	8 28	—	—	—	—	—	—	—	—	—	—	—
East and West Junction	1 34	49 46	—	49 46	—	—	—	—	—	—	—	—	—	—
Eastern and Midlands	6 44	102 69	6 44	16 59	—	86 10	—	—	—	—	—	—	—	—
Festiniog	—	13 20	—	13 20	—	—	—	—	—	—	—	—	—	—
Furness	72 45	34 78	72 32	18 20	—	16 35	—	0 13	—	0 23	—	—	—	—
Garstang and Knot End	—	7 0	—	—	—	—	—	—	—	—	7 0	—	—	—
Golden Valley	—	19 0	—	—	—	—	—	—	—	—	—	—	—	19 0
Great Eastern	536 69	497 39	536 69	405 7	—	69 18	—	—	—	—	21 56	0 30	1 7	—
Great Northern	586 9	180 69	586 3	151 7	—	—	—	0 6	22 54	—	—	—	7 8	—
Great Northern and Great Eastern Joint.	111 76	4 55	111 76	4 55	—	—	—	—	—	—	—	—	—	—
Great Northern and London and North-western.	22 75	—	22 75	—	—	—	—	—	—	—	—	—	—	—
Great Western	1,078 62	1,156 48	1078 62	902 36	2 59	143 62	—	—	—	—	107 51	—	—	—
Hammersmith and City	2 77	—	2 77	—	—	—	—	—	—	—	—	—	—	—
Hull, Barnsley, and West Riding Junction.	55 60	—	55 60	—	—	—	—	—	—	—	—	—	—	—
Isle of Wight	1 0	13 8	1 0	—	—	10 27	—	—	—	—	—	—	—	2 61
Isle of Wight Central	—	33 60	—	20 60	—	—	—	—	—	—	—	—	13 0	—
Lancashire and Yorkshire	456 30	16 19	456 30	9 25	—	—	—	—	—	—	—	—	6 74	—
Lancashire and Yorkshire and London and North-western Joint Lines.	56 2	7 74	56 2	—	—	—	—	—	—	—	—	—	7 74	—
Liskeard and Caradon	—	6 74	—	—	—	—	—	—	—	—	6 74	—	—	—
London and North-western	1,436 53	309 42	1436 53	185 54	14 20	103 19	—	—	—	—	4 75	—	—	1 34
London and North-western and Great Western Joint.	111 63	45 61	111 63	16 48	—	27 62	—	—	—	—	0 67	—	—	0 44
London and North-western and Midland Joint.	19 45	5 45	19 45	—	—	5 45	—	—	—	—	—	—	—	—
London and South-western	637 35	211 21	637 35	123 0	—	88 21	—	—	—	—	—	—	—	—
London, Brighton, and South Coast.	340 0	121 20	340 0	121 20	—	—	—	—	—	—	—	—	—	—
London, Chatham, and Dover	180 12	10 22	180 12	10 5	0 17	—	—	—	—	—	—	—	—	—
Londonderry	6 0	—	—	—	—	—	—	—	—	—	—	—	—	—
London, Tilbury, and Southend	64 21	10 42	64 5	—	—	6 55	—	0 16	3 67	—	—	—	—	—
Macclesfield Committee	10 70	—	10 70	—	—	—	—	—	—	—	—	—	—	—
Manchester and Milford	—	41 0	—	41 0		—	—	—	—	—	—	—	—	—

SUMMARY—*continued.*

NAME OF RAILWAY COMPANY.	Total Length of Railway open for Passenger Traffic.		Distance worked by Telegraph.					Distance worked by Telegraph, but not on either of the foregoing Systems.			Distance of Single Lines (not included in the foregoing Columns) worked under the following Systems.			
			Absolute Block.				Permissive Block. Double.				System in which only One Engine in Steam or Two or more Engines coupled together are allowed to be upon Line or Portion thereof at one and the same Time. (No. 1.)	Train Porter System. (No. 2.)	Train Staff System. (No. 3.)	
				Distance of Single Line.					Distance of Single Line.					
	Double.	Single.	Double.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.		Double.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.			*With* Tickets.	*Without* Ticket.
ENGLAND AND WALES—*continued.*														
	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.
MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE.	297 26	3 12	294 48	—	—	—	0 44	2 14	—	—	—	—	—	3 12
MANCHESTER SOUTH JUNCTION AND ALTRINCHAM.	9 20	—	9 20	—	—	—	—	—	—	—	—	—	—	—
MARYPORT AND CARLISLE -	27 73	13 34	27 73	—	—	10 13	—	—	—	—	3 2	—	—	—
MAWDDWY - - - -	—	6 60	—	—	—	—	—	—	—	—	6 60	—	—	—
MERSEY - - - -	3 58	—	3 58	—	—	—	—	—	—	—	—	—	—	—
METROPOLITAN - - -	47 46	4 1	47 46	—	—	4 1	—	—	—	—	—	—	—	—
METROPOLITAN DISTRICT AND METROPOLITAN AND DISTRICT JOINT.	19 71	1 43½	19 71	1 43½	—	—	—	—	—	—	—	—	—	—
MIDLAND - - - -	1,060 21	220 41	1,057 36	69 35	0 59	106 73	—	2 65	2 42	—	—	—	—	40 72
MIDLAND AND NORTH-EASTERN -	25 48	—	25 48	—	—	—	—	—	—	—	—	—	—	—
MIDLAND AND SOUTH-WESTERN JUNCTION.	1 29	54 61	1 29	16 19	—	38 42	—	—	—	—	—	—	—	—
NEATH AND BRECON - -	0 37	39 61	0 37	39 61	—	—	—	—	—	—	—	—	—	—
NORTHAMPTON AND BANBURY JUNCTION.	0 36	14 50	0 36	4 58	—	—	—	—	—	—	—	—	9 72	—
NORTH AND SOUTH-WESTERN JUNCTION.	3 14	1 46	3 14	1 23	0 23	—	—	—	—	—	—	—	—	—
NORTH-EASTERN - - -	980 63	441 36	976 58	427 72	0 17	—	—	4 5	—	—	13 27	—	—	—
NORTH LONDON - - -	11 65	—	11 65	—	—	—	—	—	—	—	—	—	—	—
NORTH STAFFORDSHIRE - -	150 4	18 51	148 78	18 51	—	—	0 36	0 50	—	—	—	—	—	—
NORTH WALES (NARROW GAUGE)	—	11 70	—	9 35	—	—	—	—	—	—	—	—	—	2 35
OLDHAM, ASHTON-UNDER-LYNE, AND GUIDE BRIDGE JUNCTION.	5 64	—	5 64	—	—	—	—	—	—	—	—	—	—	—
PEMBROKE AND TENBY - -	—	27 24	—	27 24	—	—	—	—	—	—	—	—	—	—
PONTYPRIDD, CAERPHILLY, AND NEWPORT.	5 11	—	5 11	—	—	—	—	—	—	—	—	—	—	—
RAVENGLASS AND ESKDALE -	—	7 11	—	—	—	—	—	—	—	—	7 11	—	—	—
RHONDDA AND SWANSEA BAY -	2 50	12 12	2 42	1 54	—	10 54	—	0 8	—	0 23	—	—	—	—
RHYMNEY - - - -	33 11	5 58	33 11	—	2 13	3 45	—	—	—	—	—	—	—	—
RHYMNEY AND GREAT WESTERN JOINT.	9 19	—	9 19	—	—	—	—	—	—	—	—	—	—	—
SEVERN AND WYE AND SEVERN BRIDGE.	2 79	19 15	2 19	10 29	—	8 11	0 60	—	—	—	9 55	—	—	—
SHEFFIELD AND MIDLAND COMMITTEE.	10 72	—	10 72	—	—	—	—	—	—	—	—	—	—	—
SOUTH-EASTERN - - -	363 8	48 2	363 8	41 66	—	6 11	—	—	—	—	0 5	—	—	—
SOUTH-WESTERN AND MIDLAND -	27 71	76 4	27 71	12 8	—	63 76	—	—	—	—	—	—	—	—
SOUTHWOLD - - -	—	9 0	—	—	—	—	—	—	—	—	—	—	—	9 0
SWANSEA AND MUMBLES -	—	5 10	—	—	—	—	—	—	—	—	—	—	5 10	—
TAFF VALE - - -	59 39	21 0	13 43	21 0	—	—	45 58	—	—	—	—	—	—	—
TALYLLYN - - -	—	6 50	—	—	—	—	—	—	—	—	6 50	—	—	—
WEST LANCASHIRE - -	23 64	—	23 64	—	—	—	—	—	—	—	—	—	—	—
WEST LONDON EXTENSION -	5 8	—	5 8	—	—	—	—	—	—	—	—	—	—	—
WEST SOMERSET MINERAL -	—	6 0	—	—	—	—	—	—	—	—	6 0	—	—	—
WIRRAL - - - -	4 16	6 6	4 16	6 6	—	—	—	—	—	—	—	—	—	—
WREXHAM, MOLD, AND CONNAH'S QUAY.	13 13	3 53	13 13	3 53	—	—	—	—	—	—	—	—	—	—
TOTAL ENGLAND AND WALES	9,167 40	4,345 45	9,102 65	2,890 5	41 55	1020 9	47 68	10 17	29 3	0 46	212 45	0 65	71 41	79 18

SUMMARY—*continued.*

NAME OF RAILWAY COMPANY.	Total Length of Railway open for Passenger Traffic.		Distance worked by Telegraph.					Distance worked by Telegraph, but not on either of the foregoing Systems.			Distance of Single Lines (not included in the foregoing Columns) worked under the following Systems.			
			Absolute Block.								System in which only One Engine in Steam or Twoor more Engines coupled together are allowed to be upon Line or Portions thereof at one and the same Time. (No. 1.)	Train Porter System. (No. 2.)	Train Staff System. (No. 3.)	
				Distance of Single Line.			Permissive Block. Single.		Distance of Single Line.					
	Double.	Single.	Double.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.	Worked on Electrical Train Staff or Tablet System.		Double.	Worked by the Train Staff System in addition.	Worked *without* the Train Staff System.			*With* Tickets.	*Without* Ticket.
SCOTLAND.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.	m. ch.
CALEDONIAN	460 54	306 46	460 54	35 69	0 39	259 6	—	—	—	—	—	—	—	11 12
CITY OF GLASGOW UNION	4 57	—	4 57	—	—	—	—	—	—	—	—	—	—	—
DUNDEE AND ARBROATH JOINT	17 7	—	16 17	—	—	—	—	0 70	—	—	—	—	—	—
GLASGOW AND KILMARNOCK JOINT.	26 28	2 19	26 28	—	—	2 19	—	—	—	—	—	—		—
GLASGOW AND PAISLEY JOINT	7 52	—	7 52	—	—	—	—	—	—	—	—	—	—	—
GLASGOW AND SOUTH-WESTERN	239 8	108 43	238 9	65 7	—	29 8	—	—	—	—	—	—	14 27	—
GREAT NORTH OF SCOTLAND	35 13	278 19	35 13	—	242 67	29 51	—	—	—	—	5 61	—	—	—
HIGHLAND	6 65	419 42	6 65	—	—	1 38	—	—	—	—	418 4	—	—	—
NORTH BRITISH	469 22	461 63	469 22	54 11	40 70	105 16	4 2	—	—	—	—	1 10	253 43	2 71
PORTPATRICK AND WIGTOWNSHIRE	—	81 79	—	20 19	—	53 31	—	—	—	—	—	—	—	8 29
TOTAL, SCOTLAND	1,266 66	1,658 71	1,264 77	175 26	284 16	480 9	4 2	0 70	—	—	423 65	1 10	267 70	22 32
IRELAND.														
BALLINASCARTHY, &c.	—	9 0	—	—	—	—	—	—	—	—	9 0	—	—	—
BALLYCASTLE	—	16 10	—	16 10	—	—	—	—	—	—	—	—	—	—
BELFAST AND COUNTY DOWN	7 20	68 30	7 20	58 40	0 30	9 40	—	—	—	—	—	—	—	—
BELFAST AND NORTHERN COUNTIES.	33 20	212 18	33 20	124 15	—	76 58	—	—	—	—	10 25	—	—	1 0
CASTLEDERG AND VICTORIA BRIDGE.	—	7 0	—	—	—	—	—	—	—	—	7 0	—	—	—
CAVAN, LEITRIM, AND ROSCOMMON	—	48 39	—	45 78	—	—	—	—	—	—	2 41	—	—	—
CLOGHER VALLEY	—	37 0	—	—	—	—	—	—	—	—	—	—	37 0	—
CORK AND MACROOM DIRECT	—	24 40	—	—	—	—	—	—	—	—	—	—	24 40	—
CORK AND MUSKERRY	—	18 0	—	—	—	—	—	—	18 0	—	—	—	—	—
CORK, BANDON, AND SOUTH COAST	—	93 24	—	8 64	—	84 40	—	—	—	—	—	—	—	—
CORK, BLACKROCK, AND PASSAGE.	—	6 37	—	6 37	—	—	—	—	—	—	—	—	—	—
DONEGAL	—	31 18	—	—	—	—	—	—	—	—	31 18	—	—	—
DUBLIN, WICKLOW, AND WEXFORD.	29 20	115 78	29 20	8 0	—	3 20	—	—	—	—	3 40	0 18	101 0	—
DUNDALK, NEWRY, AND GREENORE	—	26 77	—	26 77	—	—	—	—	—	—	—	—	—	—
GREAT NORTHERN OF IRELAND	137 16	382 21	137 16	13 54	—	304 33	—	—	—	—	28 46	—	35 48	—
GREAT SOUTHERN AND WESTERN OF IRELAND.	208 15	366 14	207 43	18 61	—	300 3	—	—	—	—	13 9	—	35 54	—
LONDONDERRY AND LOUGH SWILLY.	—	32 0	—	6 0	—	—	—	—	—	—	26 0	—	—	—
MIDLAND GREAT WESTERN	160 69	292 18	160 43	8 58	—	217 15	—	0 26	—	—	19 43	—	37 26	9 36
SLIGO, LEITRIM, AND NORTHERN COUNTIES.	—	42 53	—	42 53	—	—	—	—	—	—	—	—	—	—
WATERFORD AND CENTRAL IRELAND.	—	66 15	—	—	—	—	—	—	—	—	—	—	59 32	6 63
WATERFORD AND LIMERICK	31 60	252 20	10 0	76 40	—	—	—	21 60	—	—	—	—	175 60	—
WATERFORD AND TRAMORE	—	7 20	—	—	—	—	—	—	—	—	7 20	—	—	—
WATERFORD, DUNGARVAN, AND LISMORE.	—	43 0	—	43 0	—	—	—	—	—	—	—	—	—	—
WEST CAREERY	—	15 0	—	—	—	—	—	—	—	—	—	—	15 0	—
WEST CLARE	—	27 0	—	—	—	—	—	—	—	—	27 0	—	—	—
TOTAL, IRELAND	608 60	2,240 52	585 2	504 27	0 30	995 49	—	22 6	18 0	—	185 02	0 18	521 20	17 19
TOTAL, UNITED KINGDOM	11,043 6	8,245 8	10,952 64	3,569 58	326 11	2,495 67	51 70*	33 13	47 3	0 46	821 32	2 13	860 24	118 69

* 47 m. 68 ch. of which is double line.

COMPARATIVE STATEMENT showing the Number of Miles of Double Line open for Passenger Traffic, and the Distance thereof worked on the ABSOLUTE BLOCK SYSTEM, in the Years 1891 and 1892 respectively, on the following Railways :—

NAME OF COMPANY.	1891.		1892.		Per-centage of Double Line worked on Absolute Block System.		Per-centage Increase in 1892 over 1891.
	Length of Double Line open.	Distance worked on Absolute Block System.	Length of Double Line open.	Distance worked on Absolute Block System.	1891.	1892.	
ENGLAND AND WALES:	miles.	miles.	miles.	miles.	per cent.	per cent.	per cent.
BRECON AND MERTHYR	14	14	14	14			
CAMBRIAN	9	9	9	9			
CHESHIRE LINES	116	116	118	118			
DOVER AND DEAL	8	8	8	8			
EASTERN AND MIDLANDS	6½	6½	6½	6½			
FURNESS	72½	72½	72½	72½			
GREAT EASTERN	532	532	537	537			
GREAT NORTHERN	586	586	586	586			
GREAT NORTHERN AND GREAT EASTERN	112	112	112	112			
GREAT NORTHERN AND LONDON AND NORTH-WESTERN.	23	23	23	23			
GREAT WESTERN	1,078	1,078	1,079	1,079			
HAMMERSMITH AND CITY	3	3	3	3			
HULL, BARNSLEY, AND WEST RIDING JUNCTION	56	56	56	56			
ISLE OF WIGHT	1	1	1	1			
LANCASHIRE AND YORKSHIRE	456	456	456	456			
LANCASHIRE AND YORKSHIRE AND LONDON AND NORTH-WESTERN JOINT LINES.	56	56	56	56			
LONDON AND NORTH-WESTERN	1,428	1,428	1,437	1,437			
LONDON AND NORTH-WESTERN AND GREAT WESTERN JOINT.	112	112	112	112	Cent.	Cent.	—
LONDON AND NORTH-WESTERN AND MIDLAND JOINT.	20	20	20	20			
LONDON AND SOUTH-WESTERN	637½	637½	637½	637½			
LONDON, BRIGHTON, AND SOUTH COAST	340	340	340	340			
LONDON, CHATHAM, AND DOVER	175	175	180	180			
LONDON, TILBURY, AND SOUTHEND	64	64	64	64			
MACCLESFIELD COMMITTEE	11	11	11	11			
MANCHESTER, SHEFFIELD, AND LINCOLNSHIRE	277	276	297	295			
MANCHESTER SOUTH JUNCTION AND ALTRINCHAM	9	9	9	9			
MARYPORT AND CARLISLE	28	28	28	28			
MERSEY	4	4	3	3			
METROPOLITAN	31	31	47	47			
METROPOLITAN DISTRICT	20	20	20	20			
MIDLAND	1,015	1,011	1,060	1,057			
MIDLAND AND NORTH-EASTERN	26	26	26	26			
NORTH AND SOUTH-WESTERN JUNCTION	3	3	3	3			
NORTH-EASTERN	980½	976	981	977			
NORTH LONDON	12	12	12	12			
NORTH STAFFORDSHIRE	150	149	150	149	99	99	—

Name of Company.	1891.		1892.		Per-centage of Double Line worked on Absolute Block System.		Per-centage Increase in 1892 over 1891.
	Length of Double Line open.	Distance worked on Absolute Block System.	Length of Double Line open.	Distance worked on Absolute Block System.	1891.	1892.	
ENGLAND AND WALES—*continued.*	miles.	miles.	miles.	miles.	per cent.	per cent.	per cent.
Oldham, Ashton, and Guide Bridge Junction	6	6	6	6	Cent.	Cent.	—
Rhymney	23	23	33	33			
Rhymney and Great Western Joint	9	9	9	9			
Sheffield and Midland Committee	11	11	11	11			
South-Eastern	363	363	363	363			
Somerset and Dorset Joint	21	21	28	28			
Taff Vale	58½	12	59	13	20·5	22	1·5
West Lancashire	24	24	24	24	Cent.	Cent.	—
West London Extension	5	5	5	5			
Wirral	4	4	4	4			
Wrexham, Mold, and Connah's Quay	13	13	13	13			
Total, England and Wales	9,044	8,979	9,167	9,103	99·5	99·5	—
SCOTLAND:							
Caledonian	459	459	491	461	Cent.	Cent.	—
City of Glasgow Union	5	5	5	5			
Dundee and Arbroath	17	16	17	16	94	94	—
Glasgow and Kilmarnock	26	26	26	26	Cent.	Cent.	—
Glasgow and Paisley	8	8	8	8			
Glasgow and South-western	237	236	239	238	99	99	—
Great North of Scotland	32	32	35	35	Cent.	Cent.	—
Highland	7	7	7	7			
North British	468½	468½	469	469			
Total, Scotland	1,259	1,257	1,267	1,265	100	100	—
IRELAND:							
Belfast and County Down	7	7	7	7	100	100	—
Belfast and Northern Counties	33	33	33	33	Cent.	Cent.	—
Dublin, Wicklow, and Wexford	29	6½	29	29	22	100	78
Great Northern (Ireland)	137	94	137	137	68	100	32
Great Southern and Western	208	103	208	208	49½	100	50½
Midland Great Western	161	161	161	161	100	100	—
Waterford and Limerick	32	10	32	10	31	31	Nil.
Total, Ireland	607	415	609	585	68	96	28
Total, United Kingdom	10,909	10,650	11,043	10,953	98	98	—

APPENDICES.

APPENDIX No. 1.

LANCASHIRE AND YORKSHIRE RAILWAY.

EXCEPTIONS OR MODIFICATIONS with respect to the BLOCK SYSTEM.

Station.	Portions of Line.	Distance. Miles.	Chains.
Wakefield	Between the home signal for Goole Junction box and the starting signal for the station west box, up and down lines	0	20
Bradford	From down home signal cabins A and B to the station buffers	0	18
Brighouse	Between the west signal box and the up starting signal, under special instructions for trains forming connexion	0	13
Holmfirth	From the station box to the buffers	0	12½
Clayton West	From the station box to the buffers	0	11
Dewsbury	From the station box to the buffers	0	7
Rishworth	From the station box to the buffers	0	12½
Stainland	From the station box to the buffers	0	12
Todmorden	Between Todmorden Junction box and the station west box, under special instructions for trains forming connexion	0	29
Royton	From the station signal box to the station buffers	0	13
Middleton	From the down home signal to the station buffers	0	18
Stalybridge	From the goods yard cabin to the station buffers	0	15
Bacup	From the station signal box down home signal to the buffers on both lines	0	16
Manchester	Between Irwell Bridge up home signal to East Junction down starting signal and between East Junction up home signal and Irwell Bridge down starting signal, through the platform roads. Absolute block on the main lines for passenger trains	0	21
Salford (Manchester)	Between the up passenger loop line, Oldfield Road Junction, and the station east box, under special instructions so far as the loop is concerned	0	37½
Bolton	From Salford line to Blackburn Junction on the down line, and from Bury Junction to Blackburn Junction on the up line	0	32¾
Wigan	Between the goods yard signal box and Southport Junction signal box, up and down passenger lines, under special instructions for trains forming connexion	0	20½
Liverpool	From cabin A down home signal to the station buffers	0	16¼
Southport	From cabin A to the station buffers	0	9¼
Preston Junction	Between Brownedge Crossing signal box and Preston Junction signal box, in the down loop line, and under special instructions for excursion trains collecting tickets	0	32¾
Blackburn	Between the east and west signal boxes up and down lines	0	23½
Horwich	From the station signal box to the buffers	0	17
	Lockwood Junction to Meltham	3	43¼
	Totlington to a junction with the East Lancashire line, near Bury	3	30¾
Barnsley	Between Jumble Lane Home Signal and Lancashire and Yorkshire Junction Home Signal.	0	15½

LANCASHIRE AND YORKSHIRE AND LONDON AND NORTH-WESTERN RAILWAYS.

SCHEDULE.

EXCEPTIONS or MODIFICATIONS with respect to the BLOCK SYSTEM (Joint Lines).

Station.	Portions of Line.	Distance.
		Chains.
Blackpool (Talbot Road).	From down home signal to station buffers	13
Blackpool (Central)	From down home signal to station buffers	23½
Fleetwood	From down home signal to station buffers	19½
Kirkham	From up home signal to up starting signal	—
	From down home signal to down starting signal	34
Poulton	From up home signals to up home signals	—
	From Poulton junction box to Poulton goods yard box	—
	From down home signal to down starting signal	—
	From Poulton goods yard signal box to Poulton junction box	44
Preston	From No. 1 signal box to No. 4 signal box on the up and down lines	30

LANCASHIRE AND YORKSHIRE RAILWAY.

The Secretary states that during the past year two position blocks have been substituted by three position pattern between Brighouse West and Mirfield Viaduct, Thornhill Junction and Horbury Station, and Pemberton Junction and Westhoughton East.

Also that 28 sets of Electrical Repeaters have been fixed to repeat the action of signal-arms at various places on the line, and that 34 additional Telephones have been fixed during the past year to facilitate the working of the traffic.

For SECTIONS of LINE on which the MIDLAND RAILWAY COMPANY is exempted from establishing the ABSOLUTE TELEGRAPH SYSTEM, and for SECTIONS of LINE on which BLOCK TELEGRAPH WORKING is established, but in order to admit of Trains being connected or separated more than one Train is allowed in the Section at one time, *see* pages 52 and 54.

APPENDIX No. 2.

STATEMENTS received from RAILWAY COMPANIES in reply to a request from the BOARD of TRADE for information as to the PROGRESS which has been made during the year 1892 in BLOCK WORKING and SIGNAL ARRANGEMENTS, distinguishing the WORK PERFORMED on lines which have been opened for Passenger Traffic during the past year from that EXECUTED on lines which were open for traffic on the 1st January 1892, and the EXTENT of the WORK of the same kind which it is intended to undertake during the year 1893.

GREAT WESTERN RAILWAY.

STATEMENT of the PROGRESS which has been made by this COMPANY during the year 1892 in BLOCK WORKING and SIGNAL ARRANGEMENTS.

Block Working.

The Absolute Block System is now in operation on all the lines and branches as required by the Board of Trade.

Signal Arrangements.

The following places on lines which were open for traffic on January 1st, 1892, have been interlocked:—

Coalbrookdale.	Conwil.	Ynisawdre Junction.
Longville.	Bronwydd Arms.	Wallingford.
Rushbury.	Limestone Branch.	Pantyffymon.
Harton Road.	Trosnant Junction.	Llanvihangel
Cirencester.	Calne.	Long Marston.
Bird in Hand Sidings.	Cummings Crossing.	Cookham.
Danygraig Sidings.	Malvern Wells.	High Wycombe.
Briton Ferry Road.	Bridgnorth.	Princes Risborough.
Dingestow.	Neath and Brecon Junction.	Wheatley.
Llandenny.	Thorne.	Tynewydd.
Marlborough.	Hatch.	Nantymoel.
Malvern Link Gas Siding.	Ilminster.	Basingstoke.
Neath Abbey.	Brynmenyn Junction.	Kemberton Siding.
Llanpumpsaint.		

In addition to the above, the under-mentioned places are being or have been ordered to be locked:—

Various stations and places in the West of England in connection with the conversion of the Gauge.

Bourne End.	Lechlade.	Crudgington.
Cleobury Mortimer.	Alvescott.	Peplow.
Stoke Works.	Bampton.	Market Drayton.
Lawley Bank.	South Leigh.	Tram Inn.
Pencader Junction.	Eynsham.	Blackmill Junction.
Pencader Station.	Leigh Court.	Shepton Mallet.
Madeley Court.	Cheltenham.	Velin Vach Crossing.
Ketley.	Knightwick.	Llangonoyd.
Horsehay.	Stow on the Wold.	Bridport Line.
Much Wenlock.	Rhondda Mountain Siding.	Pontypool, Crane St.
Westwood Siding.	Rock Vein Sidings.	Abersychan (Low Level).
Presthope.	Brick Works Sidings.	Ebbw Vale Station.
Witney Station and Goods Junction.	Chemical Works Sidings.	Ebbw Vale Sidings.
Fairford.	Sarsden Siding.	Chard.

When the foregoing works have been carried out, it is proposed to proceed with the locking works on the under-mentioned sections of the line, viz.:—

Llangollen and Severn Valley Lines.

And at the following stations and places, viz.:—

Salisbury. Viponds Siding. Blaenavon.	Nantyglo. Ammanford. Pontamman.	Cawdor Siding. Glanamman. Usk.

Paddington Station, 15th February 1893.

HY. LAMBERT,
General Manager.

ISLE OF WIGHT RAILWAY.

Combined electric train staff and block established from Ryde to Ventnor.

LONDON AND NORTH-WESTERN RAILWAY.

RETURN showing the MILEAGE of LINES and PORTIONS of LINES upon which the ABSOLUTE BLOCK SYSTEM has been brought into operation during the Year 1892.

Total additional Mileage worked upon Absolute Block System on 31st Dec. 1892.				Name of Railway or Branch.	Portion of aforesaid Railway or Branch on which Absolute Block System has been introduced during 1892.		Distance of Double Line.	Distance of Single Line.	System or Systems in Operation during 1891.
Double.		Single.							
Miles.	Chains.	Miles.	Chains.		From	To	m. ch.	m. ch.	
8	69	4	22	Mold and Tryddyn -	Padswood -	Coppa Siding -	0 20	—	Previously worked for goods traffic only. Opened for passengers in 1892.
				" " -	Coed Talyoon -	Tryddyn Junction.	—	4 22	
				Swansea - -	Killay - -	Swansea Bay -	3 49	—	Formerly single line, now double line.
				Lancashire Union -	Ince Moss Junction.	Carr Mill Junction.	5 0	—	Two additional lines opened in 1892.
					Total additional mileage brought under absolute block system in 1892		8 69	4 22	
					Owing to deviations of the main lines of the Lancaster and Carlisle Railway at Penrith the distance between Preston and Carlisle has been reduced by 23 chains (*see* General Return).				
					Note.—The mileage brought under the absolute block system in 1891 was - - - -		10 51	13 44	

MERSEY RAILWAY.

During the year 1892 the extension from James Street to Liverpool Central (low-level), 44 chains, and the low-level station itself, have been opened for traffic. This involved the extension of block working to and through the new station, two new cabins at the east and west end of the station respectively, with all the necessary signalling, interlocking apparatus, &c., for working the extension on the absolute block system.

No alteration or extension in the working of the lines opened prior to January 1st, 1892, has taken place.

No fresh extension of working for the current year is at present contemplated.

NORTH-EASTERN RAILWAY.

STATEMENT of the PROGRESS made in INTERLOCKING, &c. during the Year 1892.

	Number of Cases in which any Passenger Line is connected with or crossed on the Level by:				Number of Cases in which Arrangements as under have been provided and have not been provided.					
					Concentration of Signal and Point Levers.		Interlocking of Signal and Point Levers.		Addition of Safety Points in case of any Goods Lines and Sidings.	
	Any other Passenger Line.	Any Goods Line.	Any Siding.	Any Cross-over Road.	Have been provided.	Have not been provided.	Have been provided.	Have not been provided.	Have been provided.	Have not been provided.
Alterations and Additions to Old Lines.	10	3	—	5	12	—	12	—	4	—
New Lines - - - -	—	—	—	—	—	—	—	—	—	—
Total - - -	10	3	—	5	12	—	12	—	4	—

REPORT of PROGRESS in BLOCK WORKING for Year ending 31st December 1892.

The North-Eastern Railway Company have established block working on the whole of their railways open for the conveyance of passengers, with the exception of the sections upon which the Board of Trade have granted exemption from block working under sealed certificate, dated the 16th January 1893.

CALEDONIAN RAILWAY.

STATEMENT of the PROGRESS of BLOCK WORKING and SIGNAL ARRANGEMENTS on LINES belonging to or worked by the COMPANY during the year to 31st December 1892, viz.:—

BLOCK WORKING.

Railways.	On Lines already open for Passenger Traffic on 1st January 1892.		On Lines opened for Passenger Traffic during 1892.	
	Consisting of Two or more Lines of Railway.	Consisting of a Single Line of Railway.	Consisting of Two or more Lines of Railway.	Consisting of a Single Line of Railway.
	Miles.	Miles.	Miles.	Miles.
Caledonian - -	—	52	1	—
Callander and Oban -	—	—	—	—
Killin - - - -	—	—	—	—
Cathcart District - -	—	—		—
Lanarkshire and Ayrshire -	¾	—	—	—
Solway Junction - -	11¾	—	—	—

Signal Arrangements.

Railways.	On Lines already open for Passenger Traffic on 1st January 1892.			On Lines opened for Passenger Traffic during 1892.		
	Concentration of Signal and Point Levers.	Interlocking of Signal and Point Levers.	Addition of Safety Points in case of Goods Lines and Sidings.	Concentration of Signal and Point Levers.	Interlocking of Signal and Point Levers.	Addition of Safety Points in case of Goods Lines and Sidings.
	No. of Cases.	No. of Cases.	No. of Cases.	No. of Cases.	No. of Cases.	No. of Cases.
Caledonian	53	53	5	96	96	28
Callander and Oban	—	—	—	6	6	2
Killin	—	—	—	—	—	—
Cathcart District	—	—	—	1	1	1
Lanarkshire and Ayrshire	—	—	—	6	6	1
Solway Junction	8	8	—	—	—	—

Statement of the Progress of Block Working and Signal Arrangements on Lines belonging to or worked by the Company proposed to be undertaken during the Year to 31st December 1893, viz. :—

Block Working.

Railways.	On Lines open for Passenger Traffic on 1st January 1893.	
	Consisting of Two or more Lines of Railway.	Consisting of a Single Line of Railway.
	Miles.	Miles.
Caledonian	—	—
Callander and Oban	—	—
Killin	—	—
Cathcart District	—	—
Lanarkshire and Ayrshire	—	—
Solway Junction	—	—

Signal Arrangements.

Railways.	Concentration of Signal and Point Levers.	Interlocking of Signal and Point Levers.	Addition of Safety Points in case of Goods Lines and Sidings.
	No. of Cases.	No. of Cases.	No. of Cases.
Caledonian	11	11	1
Callander and Oban	—	—	—
Killin	—	—	—
Cathcart District	—	—	—
Lanarkshire and Ayrshire	—	—	—
Solway Junction	—	—	—

GLASGOW AND SOUTH-WESTERN RAILWAY.

Secretary's Office,
Glasgow, 1st March 1893.

Sir,

I beg to send you herewith returns required under the Railways Regulation (Returns of Signal Arrangements, Working, &c.) Act, 1873.

I have to inform the Board of Trade that during the year 1892 no extension has been made in the block working arrangements on existing lines.

It is proposed during the year 1893 to extend the train-tablet working between Dalrymple Junction and Dalmellington, and between Girvan and Challock Junction.

The line between Killochan and Girvan, which is at present worked on the train-tablet system, is being doubled, and when the double line is opened it will be worked under block telegraph arrangements.

I am, &c.,
F. H. Gillies,
Secretary.

The Assistant Secretary,
(Railway Department), Board of Trade, London, S.W.

GREAT NORTH OF SCOTLAND RAILWAY.

Secretary and General Manager's Office,
Waterloo Station, Aberdeen, 18th February 1893.

SIR,

WITH reference to your communication, R 474, of the 23rd ultimo, I beg to forward herewith returns of the signal arrangements and systems of working in force upon this Company's line of railway.

I beg also to state that during the year 1892 the Company completed the doubling of the portion of the Deeside line between Cults and Culter and the re-signalling of the stations at Murtle, Milltimber, and Culter.

New loops were provided at Lonmay and Lumphanan—the stations also being re-signalled and interlocked. The loop at Ballindalloch has been lengthened and interlocked, and the loop at Auchterless has been resignalled and interlocked. The siding points at Parkhill, Logierieve, Esslemont, Inverugie, Mormond, Rathen, and Philorth have been provided with tablet-locking frames and safety points.

The following works are in progress:—New loops at Drummuir and Longmorn, and the platforms, lines, and sidings at Ballater are being entirely reconstructed.

I am, &c.,
W. MOFFATT.

The Assistant Secretary,
(Railway Department,) Board of Trade, London, S.W.

HIGHLAND RAILWAY.

RAILWAY REGULATION ACT, 1873.

General Manager and Secretary's Office,
Inverness, 8th March 1893.

SIR,

REFERRING to your R 474 of 23rd January last, I herewith send you the returns (two) duly filled up, and have to state that the block working and signal arrangements on lines which were open for passenger traffic on 1st January 1892 have been completed, with the exception of 28 stations, which stations we expect to complete during the present year.

The block working and signal arrangements on the Aviemore and Carr Bridge, and on the Hopeman Extension branches, were completed at the opening of these lines on 8th July and 10th October last respectively.

I am, &c.,
A. McDOUGALL,
Secretary

The Assistant Secretary,
(Railway Department), Board of Trade, London, S.W.

NORTH BRITISH RAILWAY.

LIST of NEW STATIONS at which improved SIGNALLING ARRANGEMENTS have been brought into use during the Year 1892.

Bridge of Earn.	Bridgeton Cross.	Gallowgate Central.

NEW SIDINGS provided with LOCKING FRAMES and SIGNALS in conformity with Board of Trade requirements during the Year 1892.

Auchencarroch.	Cruicks.	Lachburn.
Blackford Hill—Kirkwood's.	Duddingston—Drybrough's.	Oxwellmains.
Causton.		

STATIONS, SIDINGS, &c. at which SIGNALLING ARRANGEMENTS have been altered and improved during the Year 1892.

Abbey Town.	Forth and Clyde Junction.	North Berwick.
Abbey Junction.	Gargunnock.	North Monkland Junction.
Armadale.	Gateside.	Parkhead Junction.
Avonbridge.	Greenhill Junction.	Pomathorn.
Balado.	Grinsdale.	Rattlingate.
Bearsden.	Jamestown.	Rosslynlee.
Blackdyke.	Jedfoot.	Rutherford.
Blackston.	Kirkandrews.	St. Boswells North.
Bothwell.	Kirkbank.	Silloth.
Bowhouse.	Kirkbride.	Slamannan.
Broomlee.	Kirkbride Junction.	Smeaton Junction.
Burgh.	Lamancha.	Strathavon Branch Junction.
Camlachie.	Laughlandshead.	Strathmiglo.
Cardrona.	Largo.	Sunnyside Junction.
Causewayend Incline Foot.	Leadburn.	Thornielee.
Causewayend Incline Top.	Lower Bathgate.	Tullibole Crossing.
Clovenfords.	Lundin Links.	Uphall.
Crook of Devon.	Macbiehill.	Wallyford.
Dirleton.	Milngavie.	Westfield.
Dolphinton.	Newport East.	Whitems.
Drumburgh.	Nisbet.	

STATIONS, &c. at which improved SIGNALLING ARRANGEMENTS are intended to be made during the Year 1893.

Abbotsford Ferry.	Ewesley.	Middleton.
Alva.	Falstone.	North Water Bridge.
Angerton.	Gartness.	Ormiston.
Auchtermuchty.	Gilnockie.	Pittenweem.
Balfron.	Greenlaw.	Plashetts.
Barrasford.	Gretna.	Port of Monteith.
Bellingham.	Gordon.	Ravenswood Junction.
Bents.	Gourdon.	Reedsmouth.
Bervie.	Haddington.	Rothbury.
Blackhall.	Innerleithen.	Rumbling Bridge.
Brinkburn.	Jedburgh.	St. Cyrus.
Caldarvan.	Johnshaven.	St. Monans.
Cameron Bridge.	Kielder.	Sauchie.
Canobie.	Kilconquhar.	Saughtree.
Chirnside.	Kippen.	Scotsgap.
Chollerford.	Knowesgate.	Selkirk.
Chollerton.	Langholm.	Tarset.
Deadwater.	Lauriston.	Tillicoultry.
Dollar.	Leven.	Walkerburn.
Drymen.	Lindean.	Wall.
Duns.	Longwitton.	Wark.
Earlston.	Macmerry.	Whitburn.
Eddleston.	Marchmont.	Winton.
Edrom.	Meldon.	Woodburn.
Elie.	Menstrie.	

NEW BLOCK TELEGRAPHS complete or in progress, but not in practical operation.

From	To	Distance of Double Line. m.	ch.	Distance of Single Line. m.	ch.
Scotsgap	Rothbury	—		13	4
Drem Junction	North Berwick	—		4	60
Reston Junction	Ravenswood Junction	—		29	26
Longniddry Junction	Haddington	—		4	60
Macmerry	Smeaton Junction	—		6	54
Millerhill Junction	Roslin	—		5	73
Esk Valley Junction	Polton	—		2	8
Hawthornden Junction	Penicuick	—		4	31
Hawthornden Junction	Leadburn Junction	—		6	20
Leadburn Junction	Dolphinton	—		9	70
Peebles Caledonian Junction	Kilnknowe Junction	—		17	35
Selkirk Junction (Galashiels)	Selkirk Station	—		5	14
Roxburgh Junction	Jedburgh	—		7	8
Riddings Junction	Langholm	—		7	8
Longtown Junction	Gretna	—		3	18
Riccarton Junction	Hexham Junction	—		40	71
Carlisle Canal Junction	Kirkbride Junction	—		11	79
Abbey Junction	Silloth	—		5	22
Reedsmouth Junction	Morpeth	—		25	10
Drumburgh	Port Carlisle	—		2	64
Queensferry Junction (Ratho)	South Queensferry	—		5	6
Milngavie Junction	Milngavie Station	—		3	15
Broomfield Junction	Bervie	—		12	8
Leuchars South Junction	St. Andrews (Links)	—		4	57
Ladybank Junction	Mawcarse Junction	—		11	23
Cambus Junction	Alva	—		3	45
Polmont Junction	Polmont Station	0	17	—	
Edinburgh West	Edinburgh East	0	29	—	
	Total	0	46	253	9

Edinburgh, 21st February 1893.

J. CONACHER,
General Manager,
North British Railway Company.

NOTE OF BLOCK TELEGRAPH WORKING introduced during the year 1892 on lines which were open for traffic prior to 1st January 1892.

PASSENGER LINES.—Nil.

GOODS LINES.—Nil.

NOTE OF BLOCK TELEGRAPH WORKING introduced on lines which have been opened during the year 1892.

PASSENGER LINES.

Passenger Lines.		Distance of Double Line.	Distance of Single Line.
From	To	m. ch.	m. ch.
Bridgeton Cross North Junction -	Bridgeton Cross - - -	0 67	—

GOODS LINES.—Nil.

BELFAST AND NORTHERN COUNTIES RAILWAY.

During the year 1892 the electric train-tablet system has been extended from Castlerock to Eglinton, also Coleraine to Portrush, in all a distance of 25 miles 77 chains, replacing the train staff and ticket system. Since the 1st January 1893 tablet working has been introduced from Eglinton to Derry, thus placing the entire single-line portion of the main line under the train-tablet system.

EDW. J. COTTON,
General Manager.

LONDON: Printed by EYRE and SPOTTISWOODE.
Printers to the Queen's most Excellent Majesty.
For Her Majesty's Stationery Office.

GREAT NORTHERN OF IRELAND RAILWAY.

COPY OF REPORT

TO THE

BOARD OF TRADE by Major-General HUTCHINSON, R.E., C.B., upon the circumstances attending the DEATH of a FIREMAN in the COMPANY'S service, and also upon the HOURS of LABOUR of the COMPANY'S SERVANTS; and of the BOARD OF TRADE'S letter to the RAILWAY COMPANY thereupon.

Board of Trade,
12th February 1894.

MR. MUNDELLA.

Ordered, by The House of Commons, *to be Printed,*
13 *February* 1894.

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1894.

505.

GREAT NORTHERN OF IRELAND RAILWAY.

Board of Trade, (Railway Department,)
4th January 1894.

SIR,

I HAVE the honour to report for the information of the Board of Trade, in compliance with the instructions contained in your minute of the 14th ultimo, the results of my enquiry into the circumstances connected with the suicide of Peter Sharkey, late a fireman in the employment of the Great Northern Railway Company of Ireland, who committed suicide in Dublin on the 8th ultimo, the jury in a rider to their verdict having expressed their condemnation of the excessive number of hours which officials on the railway in question are obliged to work.

I held the enquiry in the offices of the Company in Dublin on the 22nd ultimo. It was attended by the Locomotive Superintendent and by the Traffic Superintendent of the Railway Company.

The circumstances immediately preceding the suicide of the deceased are as follows:—

On the 7th ultimo, Sharkey was fireman with driver Thomas Tiernan, with whom he had been working regularly as fireman since October 1892. His duties on that day commenced at 8.30 a.m. in preparing his engine for taking the 9 a.m. passenger train from Dublin to Portadown. The train arrived at Portadown at 12 noon, one minute late; after attending to the engine, which occupied about half an hour, Sharkey had an interval of rest for about an hour, before preparing his engine for returning to Dublin at 2.30 p.m. with the 1.30 p.m. train from Belfast. The train arrived in Dublin at 5.47 p.m., 17 minutes late, the engine having next, at 6.50 p.m., to take a passenger train from Amiens Street station to the North Wall and thence to bring back a train of empty carriages, due at Amiens Street station at 7.15 p.m., but which did not actually arrive, in consequence of detention at the North Wall, till 7.55 p.m., 40 minutes late. While the engine was waiting at Amiens Street station before proceeding to the North Wall, Sharkey had received a message from the locomotive foreman at Amiens Street that after coming back from the North Wall, he would have to act as driver of a pilot engine for shunting in the Amiens Street goods yard; this would have occupied him about two hours, viz., from 10.30 p.m. to about 12.30 a.m., and Sharkey on receiving this message appears to have made no objection to undertaking the work.

After the engine arrived from the North Wall at 7.55 p.m., and the empty carriages had been disposed of, it went to the sheds, and at 8.40 p.m. Sharkey's duty with this engine was completed. Before leaving the sheds, for some reason which the evidence leaves uncertain, and which will be further alluded to hereafter, Sharkey informed the night foreman cleaner in the sheds that he would not undertake the shunting which he had previously stated his willingness to perform, and he thereupon went away to his home.

On the following morning a message was received by the locomotive foreman that Sharkey was ill and could not come to work, and in the evening he was informed that he had committed suicide.

The verdict at the inquest was to the effect that Sharkey committed suicide by cutting his throat while suffering from temporary insanity, the jury adding an expression of their condemnation of the excessive number of hours which officials on the Great Northern Railway of Ireland are obliged to work.

Evidence.

1. *Thomas Tiernan*, driver; 35 years' service, 20 years driver, nearly all the time stationed in Dublin.—Peter Sharkey had been my regular fireman since October 1892. Previously to this he had been my fireman for two years up to 1882, when he left me on being promoted to driver. The last day he worked with me was on Thursday, December 7th. His appointed time for commencing work was 8.30 a.m., the same as mine, for the 9 a.m. train. We took the train from Dublin to Portadown, arriving there about noon, having to come on duty at 2 p.m. to take up the 2.30 p.m. train from Portadown, *i.e.*, the 1.30 p.m. train from Belfast. It took us about half an hour to attend to the engine, after which I should have about 1½ hours' rest, and Sharkey about an hour. We arrived in Dublin about 5.47 p.m., *i.e.*, 17 minutes late. We were then waiting on the engine to take the 6.50 p.m. passenger train to the North Wall. This we did and had to wait at North Wall to bring back empty carriages to Amiens Street, where we arrived at 7.55 p.m. We should have been back at 7.15 p.m., but were blocked at the North Wall. We then shunted the empty carriages in readiness for the limited mail next morning. This shunting was completed, and I reached the sheds at 8.40 p.m., Sharkey being still with me. After this I went home, Sharkey having left work about two minutes before me. Before we went to the North Wall, Sharkey was told by John Haydon, foreman cleaner, that Mr. Woods said that he would have to shunt with the pilot engine about the goods yard. When first asked he replied, "never fear," or words to that effect, meaning that he was willing to do the shunting. On coming back from the North Wall, and after reaching the shed, he changed his mind, and told Hayes, the night foreman cleaner, who had relieved Haydon, that he would not shunt, making some objection to the fireman who was to assist him. Hayes replied that he would give him a suitable fireman, after which I heard nothing more till I heard Sharkey go away, after which I did not see him again. The next morning Sharkey ought to have been with me at 9.30 a.m. to work the 10 o'clock

down train, but he did not turn up, and I heard that he had sent word that he was unwell. On Wednesday and Thursday he had complained of having a cold, but he performed his work properly. He was a man of very excitable temper, and I was cautious about crossing him. Had he proceeded with the shunting, as requested on the night of the 7th, it would have occupied him about two hours. He had often remarked to me that he thought Mr. Woods and Haydon were hard against him: I never myself saw any hardship extended towards him. My own impression was that the hardship he alluded to was his not being promoted again. I never heard him say anything about his being unable to make presents to Mr. Woods or anyone else. I have never myself known of presents being made to facilitate promotion. I have heard it spoken of amongst the men, but have no personal knowledge. I could not name anyone in particular who mentioned it. During the previous week and up to Thursday 7th, I had been working alternately on the 9 a.m. and 10 a.m. trains, returning with the 1.30 p.m. and 5 p.m. up trains from Belfast, *i.e.*, the 2.30 p.m. and 5.50 p.m. up trains from Portadown, Sharkey having been with me throughout this time. The 5 p.m. up train is due in Dublin at 9.15 p.m., after which the train has to be shunted and the engine taken to the shed. On each of these occasions I signed off at 10.30 p.m. except on the 6th, when it was 10.45 p.m. On each of these trips with the 10 a.m. train Sharkey left work at the same time I did. With the 9 a.m. train I signed off on each occasion at 6.30 p.m., but on the 7th there was the extra trip to the North Wall, when I signed off at 8.40 p.m. I think Sharkey had no shunting to do on either of the five days, when he was fireman of the 9 o'clock train, after his return to Dublin. I am paid for work by the hour, 10 hours constituting a day's work, and overtime being paid for, after a week of 60 hours has been made up, at the rate of an eight hours' day. Sunday stands by itself, and is paid for at the rate of an eight hours' day, and overtime at the same rate. Sharkey had complained to me on Tuesday, the 5th, that he had not been paid for four hours' overtime in the previous fortnight, and asked me to write to Dundalk about this. I had told him I would do so, but had not done so before his death. He had said that it was owing, he supposed, to some mistake, and laid the blame on a clerk, Jones, for not having sent in the bill on the day he was driving. With the 10 a.m. train the leisure time at Portadown would be less by about half an hour, owing to shunting, than with the 9 a.m. train. When I stated at the inquest that Sharkey's hours on Monday, the 4th, and Wednesday, the 6th, were 14, I put in the word "about." These times ought to have been from my own bills 13 and 13¼ hours respectively. I have been working the 9 and 10 a.m. trains all the time since October 1892 with Sharkey as fireman.

2. *Patrick Whelan*, guard; 14 years' service, 12 years guard.—I was guard of the 9 a.m. down train on the 4th, 5th, and 7th instant, and on the 5th and 7th Tiernan and Sharkey were driver and fireman of the train as far as Portadown, and also of the 1.30 afternoon train from Belfast on the 5th and 7th. We reached Portadown on the 5th at 11.59, and on the 7th 12 noon, the latter a minute late. On the 5th we reached Dublin at 5.39 p.m., and on the 7th at 5.47 p.m., 9 and 17 minutes late respectively. My working hours on those four days were from 8.30 a.m. to 6 p.m. I have never worked long enough hours to get overtime. I might have spoken to Sharkey, but if I did I saw nothing unusual with him. I know nothing about him after my train arrived in Dublin on the 7th.

3. *John Brien*, guard; 18 years' service, 12½ years guard.—I was guard of the 10 a.m. down train on December 4th and 6th, when Tiernan and Sharkey were driver and fireman of the train as far as Portadown. We arrived at Portadown on both days at 2.20, right time, and arrived back in Dublin at 9.15 p.m. and 9.39 p.m., the train being 24 minutes late on 6th. On neither occasion had I any conversation with Sharkey. My hours one week are from 9.30 a.m. to about 9.30 p.m., and on the other week from 8.30 a.m. to 5.45 p.m. I get overtime on Sundays, viz., a full day's pay, working from 4 to 10 p.m. every alternate Sunday.

4. *John William Woods*, locomotive foreman in Dublin; 39 years' service, seven years in my present position.—I have 15 drivers and 15 firemen under my orders. Peter Sharkey was one of the firemen, and has been under me the whole seven years. Foremen cleaners Haydon and Hayes are next under me. Haydon acts by day and Hayes by night. Sharkey was promoted to driver in 1887, and was employed in shunting at Drogheda, where he became ill with brain-fever, and was away without notice from September 1889 to January 1890, when he came back and was appointed fireman in Dublin, and has held this position ever since. I had seen him for the last time on the morning of the 7th before starting with the 9 a.m. for Portadown. I did not speak to him, and he made no complaint to me about being ill or not being paid for overtime. On Thursday 7th, about 9 p.m., I was informed by Hayes that Sharkey had refused to shunt upon returning from the North Wall, Haydon having informed me about 6 p.m. that Sharkey had consented to do the shunting after returning from the North Wall, the work commencing about 10.30 p.m. and lasting till 12.30 a.m., and this time would have reckoned for overtime at drivers' rate of pay, however few hours in the week he had made as fireman. Hayes told me that Sharkey simply said he would not do the shunting, whereupon I got another man to do it. After this I heard nothing more of Sharkey till a policeman came to me about 9.30 on Friday night 8th and told me that Sharkey had cut his throat, except that I had had a message in the morning from a woman who stated that Sharkey was ill and could not come to work, to which I replied, "I could do without him and did not want him to-day." On Sunday, November 26th, about 4.30 p.m., Tiernan had come to me and complained that Sharkey would not do his work for him. I told him I did not do railway business on Sundays, but that I would see about it on Monday. On Monday evening, when the engine had returned to the sheds after its day's work, I asked Sharkey in Tiernan's presence how it was he (Sharkey) was not doing his work. He replied, "Mr. Woods, what is it I am not doing, don't you see me doing my work," "I always see you doing your work when you are here," I replied, "now Tiernan, what have you to say to Sharkey," upon which Tiernan replied, "it was all right," after this I had no particular conversation with Sharkey and no complaint from him. I did not observe any friction between Tiernan and Sharkey except on this occasion. I was not aware that Sharkey had complained of not being paid for overtime till I heard it at the inquest, after which I ascertained that he had not been paid for a day's work as driver, owing to his not having sent his bill. I deny the statement that I have ever been hard upon Sharkey, having had no occasion to be, except that now and then I have had to find fault with him for being late on duty. I never observed any signs of flightiness about him, he was always very sensible before me. I deny the statement made at the inquest that I have been in the habit of receiving presents from my subordinates. I have no reason to think that Haydon was hard upon Sharkey, all that Haydon could do would be to tell me about any irregularity of Sharkey's, and this he had never done. I had not thought it wrong to ask Sharkey to shunt after his day's work on the 7th, which would have made him 16 hours on duty, as he might have been off duty the next day, and could have been off certainly till 1 p.m.

5. *Michael Hayes*, foreman cleaner at night in the Dublin sheds; seven years' service, fireman two years and foreman cleaner eight months.—I knew Peter Sharkey and last saw him about 8.40 p.m.

on Thursday 7th, after he had brought his engine into the shed. He began a conversation by telling me that he would not shunt, as he had promised Haydon he would before going to the North Wall, and that I was to tell Mr. Woods. He was to act as driver of the shunting engine, and before he had refused to shunt he asked who was to be his fireman, and I showed him the man, viz., Greenaway, and he said he would not take him, and after this he said he would not shunt at all, and then and there he went away. I have never seen him since. At this time he did not appear ill, nor did I notice anything odd about him. I had never before had to ask Sharkey to shunt. Sharkey was that kind of man that if I had asked him why he would not shunt, I am sure he would not have answered me. The conversation between Sharkey and me took place some distance from the engine, so that Tiernan could not hear what passed as he was on the engine.

6. *John Haydon*, foreman cleaner by day in the Dublin sheds.—I have been 18 years in railway service, 15 years on this railway, 3 years fireman, 14 years foreman cleaner; all the time in Dublin. I was well acquainted with Sharkey, and have known him since 1879, and have had to do with him during this time, except when he was away two years in Drogheda. I last saw him alive on Thursday the 7th. I saw him in the morning and again in the evening, after his arrival with the 5.30 p.m. train at the platform. I had come from the sheds with orders from Mr. Woods that he was to act as driver of the shunting engine after he had come back from the North Wall. He said he would do it and made no objection whatsoever. I observed nothing at all wrong with him. I never saw him again, having left work at 7.0 p.m. He was not a difficult man to get on with, and not one I should be afraid to ask a question of. He had never complained of either Mr. Woods or me being hard upon him. I have never heard or known of firemen making presents to the foreman. I never did so myself when I was a fireman. Hayes told me next morning that Sharkey had refused to shunt, but did not say why, and I did not ask him the reason why. It was disobedience of orders on the part of Sharkey to refuse to shunt, unless he had sufficient reason for his refusal.

7. *Henry Dunne*, fireman; five years' service, two years fireman.—John Reilly is my regular driver. My hours of work during the week commencing November 27th were from about 12.15 p.m. till 1 a.m., out of which time I am in shed from 4 p.m. to 6 p.m., and sometimes more. I have also to work every second Sunday, for which I am paid overtime. The times entered in the time bill correctly describe my work between 27th November and 9th December. I know nothing about Sharkey thinking Mr. Woods or Haydon were hard upon him, and I know nothing about presents being made to Mr. Woods by firemen.

8. *Thomas Cummins*, fireman; seven years' service, four years fireman.—John Conway is at present my regular driver, I have been with him about three weeks. I was working with him on the week commencing 4th December, with the Oldcastle goods train and Howth passenger train. On the 4th, 6th, and 8th I commenced work at about 6.30 a.m., and signed off about 3 p.m. I had no other work on these three days. On the 5th, 7th, and 9th I commenced work at about 4.45 with goods trains, which were due back in Dublin at 9.5, but arrived at 9.57, 10.20, and 10.20. On the down journey we have to stand at Drogheda an average of two hours. I receive overtime for any hours worked more than 60 in the week. I have no knowledge of the alleged practice of giving presents to the foreman. I have to work every alternate Sunday, for which I am paid overtime.

9. *Patrick Keogh*, fireman; 12 years' service, 7 years fireman.—My driver is Michael Carroll, with whom I have been about seven or eight months. During the two weeks commencing 27th November I was working alternately the 9 and 10 a.m. down trains from Dublin to Portadown, and was due back at 5.30 and 9.15 p.m. I joined my engine about half-an-hour before train time and left work about half-an-hour after arriving. The hours of work given in the time-table are correct. On the 8th we had to take a train to the North Wall and back with empty carriages after arriving in Dublin. With the 9 o'clock train there is about half-an-hour rest at Portadown, and about the same with the 10 a.m. train. I knew Sharkey well and last saw him at Portadown on Thursday 7th. He seemed to be in his usual health. He never told me that either Mr. Woods or Haydon was hard upon him. He did not tell me he had not been paid for overtime. I never made a present to the foreman and do not know anyone who ever did, but I have heard the rumour.

Conclusion.

On consideration of the foregoing evidence and of a return, which has been supplied to me by the Locomotive Superintendent of the Great Northern Railway of Ireland, of the hours worked by the drivers and firemen who are stationed in Dublin, it appears that the hours worked by the deceased fireman Sharkey for the 10 working days between 27th November and 7th December next preceding his death were—

Date.	Time.	No. of Hours.
November 27 -	8.30 a.m. to 6.30 p.m.	10
„ 28 -	9.30 „ 10.30 „	13
„ 29 -	8.30 „ 6.30 „	10
„ 30 -	9.30 „ 10.30 „	13
December 1 -	8.30 „ 6.30 „	10
„ 2 -	9.30 „ 10.30 „	13
„ 3 -	Sunday not at work.	
„ 4 -	9.30 a.m. to 10.30 p.m.	13
„ 5 -	8.30 „ 6.30 „	10
„ 6 -	9.30 „ 10.45 „	13¼
„ 7 -	8.30 „ 8.40 „	12⅙

These hours include an unoccupied time at Portadown of about an hour on the 27th and 29th November, 1st, 5th, and 7th December, and of about half-an-hour on the other days. It will thus be seen that on the last day but one on which Sharkey worked he had been on duty 13¼ hours, and that on four other days out of the 10 he had been employed for 13 hours, these long days alternating with shorter ones of 10 hours each, except in the case of the intervening Sunday on 3rd December, when he

was not at work. On the last day he worked his hours were actually $12\frac{1}{6}$, but if he had carried out his intention of performing the shunting which he had in the first instance expressed his willingness to do, his hours would have amounted to 16, including one hour's rest at Portadown between 1 and 2 p.m. and nearly two hours between 8.40 p.m., the time at which his ordinary work actually ceased, and 10.30 p.m., that at which the shunting was to commence.

Had Sharkey carried out his intention of shunting for two hours after his regular day's work, his hours (including one hour's rest at Portadown, and nearly two hours at Dublin before commencing to shunt) would have amounted to 16, and might well have been considered excessive; the $12\frac{1}{6}$ hours (including one hour's rest at Portadown) which he had actually worked on the day before his death may, however, be regarded as longer than are desirable.

With regard to the hours worked by Sharkey on the 6th, viz., $13\frac{1}{4}$, and on four alternate previous days, viz., 13, these may properly be looked upon as being considerably in excess of what are right in the case of men holding the responsible post of firemen. On the four other days, making up the 10 working days before his death, his hours of work were 10, and these are reasonable.

The reason of Sharkey refusing to shunt after having consented to do so is not obvious. It appeared in evidence that he was to act as driver of the shunting engine, and did not approve of the fireman who had been told off to work with him. My own idea is that he was probably beginning to feel ill from the attack of influenza which was soon after developed, and felt that he was not equal to any more work.

With the exception of driver Tiernan, who said that Sharkey appeared to have a cold on the 6th and 7th, none of the other witnesses who had last seen him had observed any signs of illness about him. I was unable to elicit any information as to the reason of Sharkey, as stated at the inquest, having thought Mr. Woods, the locomotive foreman in Dublin, or Haydon, the foreman cleaner, were hard upon him.

Sharkey's non-receipt of pay for overtime appears to have been due to some mistake which would have been rectified.

Mr. Woods emphatically denied the allegation made at the inquest that he had been in the habit of receiving presents from those under him, and none of the other witnesses I examined could or would throw any light on the allegation.

The record of Sharkey's service is a somewhat peculiar one, and is as follows:— Engaged as cleaner in 1873, age 14; passed as fireman June 1878; passed as driver July 1882; reduced to fireman December 1884 for causing collision in Dublin yard; re-appointed driver November 1887. Became ill with brain fever and left his duty without notice from September 1889 to January 1890. Re-engaged as fireman in January 1890.

In consequence of the remarks of the jury as a rider to their verdict, with reference to the excessive number of hours worked by officials on the Great Northern Railway of Ireland, I requested the Locomotive Superintendent to supply me with a return for the fortnight ending 9th December of the hours of work of all the drivers and firemen stationed in Dublin, and from an analysis of this return, which includes 15 drivers and their firemen—the accuracy of which I tested by calling such of the men as happened to be available—I regret to find that in the following cases (excluding those of Tiernan and Sharkey) the hours must be looked upon either as longer than desirable or as excessive, viz.:—

Names of Men.	Excessive Hours.	No. of Days on which Excessive Hours were worked.	Remarks.
	H. M. H. M.		
Driver Carroll Fireman Keogh	12 30 to 13 0	7 out of 12	These hours include about half-an-hour off duty daily.
Driver Conway Fireman Billings Fireman Cummins	16 27 to 19 52	6 out of 11	The men were relieved the day after the long day of 19 hours 52 minutes.
Driver Ryan Fireman Field	15 0 to 18 25	7 out of 12	
Driver Billings Fireman Foote and others	12 35 to 14 20	11 out of 12	One hour off for dinner.
Driver Murphy Fireman Sherlock	12 30 to 15 35	12 out of 12	„ „
Driver Byrne Fireman O'Farrell	14 0 to 15 35	3 out of 12	Two to three hours' rest in sheds each night.
Driver Byrne Fireman Field and others	12 15 to 18 0	4 out of 11	In the 18 hours case the train was standing at Kells for 5 hours. In another case of $17\frac{1}{2}$ hours the driver was fined for not reporting himself for relief.

In the cases of drivers Carroll, Conway, Ryan, and Byrne, and their firemen, the days of short hours to a certain extent alternate with those of long ones; but this fact does not, in my opinion, justify the latter, however much the men (as it is stated they do) prefer the system.

In view of the (in some cases) excessively long hours which are worked by the drivers and firemen stationed in Dublin, it is for the consideration of the Board of Trade whether, before deciding upon what action to take, they should not call for a return of the hours worked by drivers and firemen on all other parts of the line.

I have, &c.,
C. S. Hutchinson,
Major-General, R.E.

The Assistant Secretary,
Railway Department, Board of Trade.

Railway Regulation Act, 1893.

Board of Trade, (Railway Department,)
16th January 1894.

Sir,

I am directed by the Board of Trade to enclose, for the information of the directors of the Great Northern of Ireland Railway Company, a copy of the report of Major-General Hutchinson, C.B., R.E., as regards the circumstances attending the suicide of a fireman named Peter Sharkey, in the employ of the Company, and the excessive hours of labour of the Company's servants, to which the jury at the inquest on Sharkey drew attention.

It appears that out of the 10 working days preceding the day of his death, Sharkey had worked long hours on six occasions; in one instance his day's work having extended to 13¼ hours.

It also appears from the enquiry made as to the hours of the Company's drivers and firemen stationed in Dublin that, during the fortnight ended the 9th ultimo, they had in many instances on several days, and in one case on every day, worked for periods of time which the Board concur with Major-General Hutchinson in regarding as excessive.

I am, therefore, directed specially to refer to the provisions of the Railway Regulation Act, 1893, and to request that your Company will be good enough to submit, for the consideration of the Board, within one month from the date of this communication, such a schedule of time for the duty of the drivers and firemen stationed in Dublin as will bring their actual hours of work within reasonable limits.

The Board will be glad to hear that you are prepared to treat this letter as a formal order made upon your Company by the Board in pursuance of the powers of the above-mentioned Act.

I am also to request that this Department may be furnished, at your early convenience, with a return of the hours worked during the fortnight ended the 9th ultimo by all the drivers and firemen employed by the Company at other places than Dublin.

I am, &c.,
(Signed) Francis J. S. Hopwood.

The General Manager,
Great Northern of Ireland Railway Company.

GREAT NORTHERN OF IRELAND RAILWAY.

COPY OF REPORT to the BOARD OF TRADE by Major-General HUTCHINSON, R.E., C.B., upon the circumstances attending the DEATH of a FIREMAN in the COMPANY'S service, and also upon the HOURS of LABOUR of the COMPANY'S SERVANTS; and of the BOARD OF TRADE'S letter to the RAILWAY COMPANY thereupon.

Board of Trade,
12 February 1894.

MR. MUNDELLA.

Ordered, by The House of Commons, *to be Printed*,
13 *February* 1894.

Price 1*d.*

505.

COPY OF REPORT

TO THE

BOARD OF TRADE

BY

MAJOR-GENERAL HUTCHINSON, R.E., C.B.

OF HIS

INQUIRY INTO THE MANAGEMENT

OF THE

TRALEE AND DINGLE LIGHT RAILWAY.

Presented to both Houses of Parliament by Command of Her Majesty.

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1893.

[C.—7074.] *Price* 1*d.*

TRALEE AND DINGLE LIGHT RAILWAY.

Board of Trade, (Railway Department,)
17 April 1893.

SIR,

I HAVE the honour to report, for the information of the Board of Trade, in compliance with the instructions contained in your Minute of the 13th ultimo, the result of my enquiry into the management of the Tralee and Dingle Light Railway.

This enquiry, which took place in the Court House, Tralee, on the 22nd ultimo, was held under the 46th section of the Order in Council dated September 17, 1888, consequent upon a memorial from a large number (about 113) of the ratepayers of the barony of Corkaquiny (one of the baronies liable to make payments on account of the baronial guarantee given in respect of the railway), asking for an enquiry into the whole concern of the Tralee and Dingle Light Railway, the constitution of the directorate, the salaries of the officials, and the general management of the line.

The memorialists were represented by Mr. Downing, solicitor;
The township of Tralee and barony of Clanemorris by Mr. Horgan, solicitor; and
The Tralee and Dingle Light Railway Company by Mr. Huggart, solicitor.

Mr. Huggart raised an objection to the enquiry being ordered under the 46th section of the Order in Council on the ground that there was nothing in the memorial relating to such default in the completion, working, or maintaining of the line as to bring the enquiry within the scope of section 46; but he at the same time announced that the Company wished that every ratepayer should have the fullest opportunity of making any statement he desired with reference to the management of the line.

Mr. Downing then called witnesses in support of the various statements in the memorial, viz:—

1. Father T. O'Sullivan, parish priest of Anniscaul.
2. Mr. Michael O'Leary.
3. Mr. Thomas O'Donoghue, merchant, Dingle.
4. Mr. W. A. Ireland, fish dealer, Dingle.
5. Mr. Thomas Long, fish dealer, Dingle.
6. Mr. Patrick Long, trawl fish trader, Dingle.
7. Mr. Flaherty, farmer, near Dingle.
8. Mr. James Long, fish dealer, Dingle.
9. Mr. Justin McCarthy, farmer, near Anniscaul.
10. Mr. M. Slattery, auctioneer, Tralee, and corporate director of railway from September 1890 to September 1891.
11. Mr. James Herlihy, shopkeeper, Anniscaul.

Mr. Horgan next made a short speech and examined two witnesses, viz.:—

12. Mr. M. Dissette, wine merchant, Tralee.
13. Mr. Burke, fish dealer, Dingle.

Mr. Huggart then opened the case on behalf of the Railway Company, and called as witnesses—

14. Colonel Rowan, chairman of the Railway Company.
15. Mr. Parkes, manager of the railway, and station-master at Tralee.
16. Mr. Stewart, secretary to the Clogher Valley Tramway Company.
17. Mr. Hickson, engineer to the railway.

The proceedings then terminated.

Before considering the bearing of the evidence upon the matters raised in the memorial, it may be useful to mention the following particulars with regard to the railway which was opened for traffic in March 1891.

It consists of a main line between Tralee and Dingle and a branch, leaving the main line at a point about 10 miles from Tralee, to Castle Gregory.

The main line is about 31 miles 52 chains long, of which about 27 miles 61 chains are laid along the public road, and the remainder through fields; the branch is about 6 miles 11 chains long, of which about 4 miles 27 chains long are laid along the

public road and the remainder through fields. The gauge is 3 ft. and the engines are limited to a weight not exceeding eight tons on an axle. The gradients on the main line are steep, there being a considerable length of 1 in 30, sharp curves occurring on some of these steep gradients. These steep gradients and sharp curves, in conjunction with the limited weight on the wheels of the engines, tend to make the haulage on the line difficult and expensive.

The first of the three subjects alluded to in the memorial as a subject for enquiry is the constitution of the directorate. The directors are now nine in number, six ordinary directors and (as provided for in the Order in Council) three baronial directors, one from each of the three guaranteeing baronies. There was also for a time a director representing the Tralee Town Commissioners, in consideration of the Urban Sanitary Authority of Tralee having guaranteed the interest of 4 per cent. on a sum of 6,000*l.*; but this directorship is at present vacant. None of these directors require any qualification in the way of holding shares.

Complaints were made by Father O'Sullivan and Mr. O'Donoghue that the barony of Corkaquiny, which guarantees the interest of 60,000*l.*, *i.e.* half the guaranteed capital, is not sufficiently represented by one director, and that the director should be elected by the ratepayers. Father O'Sullivan alleged that the baronial director for the barony of Corkaquiny was also baronial constable, and as such received a commission of 5 per cent. on the rates which have to be levied to meet any deficiency in the working expenses and the guaranteed interest, implying that his personal interest lay in the failure rather than in the success of the line.

Colonel Rowan, chairman of the directors, stated that he considered there were too many directors.

The salary of the chairman is fixed at 52*l.* 10*s.* per annum, and that of each of the directors at a sum not exceeding 20*l.* per annum, so that, if the Tralee Town Commissioners were represented on the Board, there might be an annual charge of 232*l.* 10*s.* for directors' fees, supposing each director was constant in attendance. During the half year ending November 30th last, the director's fees amounted to 76*l.* 13*s.*

As regards then the constitution of the directorate, it would seem desirable to reduce the number of the ordinary directors and thus effect some reduction in the sum payable for directors' fees. The baronial directors are elected in accordance with the terms of the Order in Council, and no change could be made as regards them without an amendment of the order. It certainly would seem just that the barony of Corkaquiny, which guarantees the interest on 60,000*l.*, as against that on 39,000*l.* for the barony of Truckenackmy, and that on 15,000*l.* for the barony of Clanmaurice, should be represented by at least one additional director; and it also seems inexpedient that the appointment of baronial director should be conferred upon a gentleman already holding a post the emoluments of which are increased in accordance with the amount of taxation necessary to pay the interest on the baronial guarantee, and the loss incurred in the working of the railway; but unless I am misinformed the baronial directors are elected by the ratepayers, some of whom are therefore in this instance complaining of the consequences of their own act.

The second subject raised in the memorial is the salaries of the officials, this referring especially to those of the secretary and the manager.

The salary of the secretary is fixed by the Order in Council at a sum not exceeding 200*l.* per annum, subject to revision by the grand jury.

The salary of the manager, who acts also as station-master at Tralee, is at present fixed at 150*l.* per annum.

No objection was raised to the individual amount of these salaries, but Mr. Slattery (formerly a director) suggested that the office of secretary and manager might with advantage be combined and a saving of expense thus effected. Colonel Rowan was of opinion that this could not be done unless an extra clerk was appointed.

Mr. Stewart, the secretary and manager of the Clogher Valley Tramway, a line of about equal mileage with the Tralee and Dingle Railway, did not think economy would be effected by combining the offices, his salary being 400*l.* a year, there being also an accountant with a salary of 150*l.* a year, and two clerks at 75*l.* a year each.

No reference was made to the salaries of other officials.

Upon this subject it appears to me that the offices of secretary and manager might with advantage be held by one person at some increase over the present salary of either of these officials, making it (say) 250*l.* per annum, an additional clerk at a salary of (say) 50*l.* a year being appointed; a saving of at least 50*l.* a year being thus effected.

The last and most important point raised in the Memorial relates to the general management of the line, and with regard to this the complaints were numerous, the principal ones being the following :—

1. That the secretary being a member of a firm of merchants doing business both in Tralee and Dingle, and his father being also a director of the railway, there is a tendency to favour this firm in the subject of rates, and to benefit Tralee at the expense of Dingle.
2. That the trains are unpunctual.
3. That the trains are not now arranged to run at the most convenient times.
4. That the working expenses are very large, thus causing heavy charges on the tax payers.
5. That free passes on the line are improperly given.
6. That no facilities are afforded at the quay at Dingle for loading trawl fish into waggons, such fish having to be carted from the quay to the passenger station.
7. That the rate for trawl fish from Dingle to Dublin is too high, and is the same now as it was by carts before the railway was opened.
8. That the rate for coarse fish is prohibitory.
9. That special trains are not provided for fairs.
10. That the rates for goods between Tralee and Anniscaul, and other places, are now too high.
11. That the fences are imperfect and allow cattle to stray on to the line.
12. That notice is not given of the running of special trains.

With regard to these complaints :—

1. That as to the position of the secretary was supported by Messrs. O'Donoghue, Ireland, and Thomas Long ; no specific charges were proved as to the secretary's firm having been favoured in the scale of rates, but these witnesses had a general impression that it was so, particularly in the charge for empty fish boxes (which are manufactured by the firm) from Tralee to Dingle.

On the part of the company it was contended that the partiality complained of could not be exercised as two of the directors were merchants in Tralee doing the same business as the secretary's firm, and it would be to their interest to prevent any manipulation of rates in the way suspected.

2. The complaint of the unpunctuality of the trains was spoken to by Father O'Sullivan, Messrs. O'Donoghue, Flaherty, Justin McCarthy, Herlihy, and Dissette.

This was attributed to bad fuel, want of water, unskilled drivers, and occasional breakdowns ; these causes of unpunctuality were for the most part allowed by the company.

3. The inconvenience of the hours at which the trains are run was complained of by Father O'Sullivan and Mr. Justin McCarthy. Up to last June the trains were run at more convenient hours. but since that month the hours have been as follows :—

Leave Tralee 10 a.m., arrive at Dingle 12.30 p.m.
Leave Tralee 6.30 p.m., arrive at Dingle 9 p.m.
Leave Dingle 7 a.m., arrive at Tralee 9.30 a.m.
Leave Dingle 3.30. p.m., arrive at Tralee 6 p.m.

Thus allowing too short a time (only three hours) in Dingle for persons leaving Tralee at 10 a m., and too long a time (nine hours) in Tralee for persons leaving Dingle at 7 a.m., this latter being especially complained of as tending to drive people into the public-houses at Tralee while waiting for the train after doing their business.

The alteration in the running of the trains was stated to have been made for economical reasons, but that instead of effecting a saving, it had resulted, owing to a diminution in traffic, in a loss.

In reply to these statements the Company alleged that only one complaint on the subject had reached them, or otherwise they would have taken the matter into serious consideration.

4. The complaint as to the large working expenses and the consequent heavy charges on the ratepayers was supported by Father O'Sullivan, Messrs. O'Leary,

O'Donoghue, Slattery, and Herlihy. The rate to meet the excess of working expenses over receipts and the guaranteed interest, was stated to have amounted to 2*s.* 2*d.* in the pound for the year ending 30th November 1892, it having been originally expected not to exceed 3½*d.* in the pound.

In explanation of the working expenses it was stated on behalf of the Company that they included sums which ought to be charged to capital, but which in consequence of the Company having no surplus capital, had to be paid for out of revenue, amounting in the last half year to about 600*l.*, or reducing the deficiency to about 700*l.* on the half year's working; that it was also hoped that an arrangement may be shortly come to with the Post Office for the carriage of the mails by which the deficit will be still further reduced. It was also urged that there was a saving in the cost of keeping the contract roads in repair in the barony of Corkaquiny amounting to about 700*l.* a year since the opening of the railway, by which amount the rates should be relieved.

5. The abuse of free passes was complained of by Messrs. O'Donoghue and Slattery. The pass books showed that in some instances these had been issued without proper cause. The chairman stated that in future none were to be issued without a Board's order.

6. As to no facilities being afforded at the quay at Dingle for loading trawl fish into waggons, such fish having to be carted from the quay to the passenger station, Messrs. O'Donoghue, Thomas Long, Patrick Long, James Long, and Burke, gave evidence as to this, from which it appeared that 3*d.* a box had to be paid for sending trawl fish by cart from the quay to the railway station, whereas mackerel were loaded into trucks at the quay. The Company's reason for treating trawl fish differently from mackerel was stated to be that the latter arrived in truck loads at times more or less known, whereas trawl fish arrived at all times and in small quantities, and there would consequently be the need of a shed on the quay, and a man constantly on duty there to receive and weigh the fish.

7. The complaint as to the rate for trawl fish from Dingle to Dublin being too high, and not having been reduced since the opening of the railway was urged by Messrs. Thomas and James Long; previously to the line being opened it was stated to be 2*s.* a basket from Dingle to Tralee, and 3*s.* from Tralee to Dublin, the through fare being now from 5*s.* 6*d.* to 6*s.* a basket.

There was no reply from the Company to this complaint.

8. The complaint as to the coarse fish rates being prohibitory was spoken to by Messrs Thomas Long, Patrick Long, and James Long.

The Chairman of the Company was of opinion that a lower rate would not develop the coarse fish traffic; the traffic manager stated the lowering of the rate had never been asked for, but that it might be tried.

9. Mr. Justin McCarthy complained of the want of special trains for fairs. In reply the traffic manager stated that these were always run for the Dingle pig fairs, and that they had been tried for cattle fairs, but had not being taken sufficient advantage of to warrant their being continued.

10. With regard to the rates for goods being now too high, it was stated by Mr. Herlihy that the rates had been raised on certain articles since the beginning of the year, giving as an instance that the rate for a cask of porter, which was formerly 9*d.*, had been raised to 1*s.* 1*d.*, the carriers' charge being 1*s.*, the consequence was that three carriers were now on the road, there having been none after the railway was opened until recently. Father O'Sullivan also stated that in consequence of the high rate charged for goods many shopkeepers now used carriers instead of the railway. Mr. Dissette complained of the high rates for goods.

The Company acknowledged that some of the rates had been raised since the 1st January, when the new tariff came into force, but stated that they were not up to the maximum allowed.

11. The state of the fences was complained of by Father O'Sullivan as leading to the killing of cattle. In reply the engineer stated that the fences alluded to were principally those alongside of the tramway portion of the line; that these were now in a better state than when the line was opened; and that he was continually engaged in having them repaired.

12. The complaint as to notice not being given of the running of special trains was supported by Father O'Sullivan and Mr. O'Leary. The reason for desiring this

knowledge was that persons driving along the road might be able, if they wished it, to avoid meeting these trains when running on the tramway portion of the line. In reply it was stated that the running of special trains was advertised when possible; but that when a special train had to be run at short notice it was impracticable to do this.

With reference, then, to the last point raised in the memorial, viz., the general management of the line,—

1. It would in my opinion be desirable that the office of secretary should not be held by a member of a firm of merchants doing business in Tralee and Dingle, so that no ground, rightly or wrongly, may be afforded for the opinion that this firm is favoured in the matter of rates.

2. The trains are no doubt frequently unpunctual, attributable principally to the engines being unequal to hauling their loads up the heavy gradients and round the sharp curves with which the line abounds. As there are no means available for substituting more powerful engines for those now in use, no pains should be spared in maintaining these in the highest possible state of efficiency.

3. As the hours at which the trains are now run do not appear to give satisfaction, they might well be altered back to those which existed prior to last June.

4. The complaint as to heavy working expenses does not seem to me to be well founded. For the three half years ending November 30th, 1891, May 31st, 1892, and November 30th, 1892, they amounted to *3,486*l.*, 3,542*l.*, and 3,787*l.* respectively, the increase in the last amount being due to materials and labour for necessary accommodation, and an instalment of 230*l.* (more than that paid in the previous half year) for a new engine, the locomotive expenses having been in other respects diminished. This makes the working expenses per mile per week for the last half year about 3*l.* 17*s.*, or 2*s.* 7½*d.* per train mile, not, I think, an extravagant amount considering the nature of the line and the fact of its having a branch, which necessarily tends to increase the cost of working. If from 3,787*l.* are deducted the sums paid for providing necessary accommodation and towards a new engine, which sums are properly chargeable to capital, and amount to about 600*l.*, the working expenses per mile per week would have been only about 3*l.* 5*s.*, or 2*s.* 2½*d.* per train mile, comparing favourably with the working expenses of some other similar lines. It is not so much, therefore, the fact that the working expenses are large which causes the heavy charges on the ratepayer, but rather the fact that the receipts are so small, amounting in the three last half years to 2,444*l.*, 2,241*l.*, and 2,479*l.* respectively, making for the last half year the amount only about 2*l.* 10*s.* 6*d.* per mile per week, or 1*s.* 9*d.* per train mile. It is satisfactory to observe that in the last half year there has been an increase of about 238*l.* in the receipts (of which 227*l.* are due to passengers), notwithstanding the complaints as to the inconvenience of the hours at which the trains are run and as to the heavy charges for goods. If, as the Company hopes, an arrangement may shortly be come to with the Post Office for running the mails, a considerable increase of receipts may be looked for, and though it will, I fear, be some time before the receipts will balance the expenditure, an important reduction in the sum to be provided by the baronies would no doubt take place; and in this connection it must also be borne in mind that from the heavy rate of 1*s.* 2*d.* in the pound required to meet the deficit in the last half year's working there should be deducted the considerable amount saved to the barony by the decreased expenditure in the maintenance of the roads.

5. Attention having been drawn to the improper use of free passes, the practice will no doubt in future be put a stop to.

6. It is most necessary that arrangements should be made for loading trawl and coarse fish into trucks at Dingle Quay (as is done in the case of mackerel), instead of their having to be sent from the quay to the railway station at a cost of 3*d.* per basket. In the case of a railway, one of the principal objects of which was to develop fish traffic, it is most important that no possible means should be omitted which can tend to foster that traffic.

7. There certainly seems room for a reduction in the rate for trawl fish from Dingle to Dublin.

8. It would also appear advisable to try and cultivate a traffic in coarse fish by lowering the existing rate.

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* Including an average for an additional month, this return extending only for five months.

9. Special fair trains seem to be run to as great an extent as the traffic warrants.

10. The complaints as to the rate for certain goods between Tralee and Anniscaul and other places being too high are borne out by the fact of carriers having again begun to ply, after having ceased to do so upon the opening of the railway until recently. This is a matter requiring the earnest attention of the Company, as being intimately connected with the prosperity of the line.

11. The subject of fencing is one that demands constant attention, and as regards those fences which are on the side of the road where the tramway runs, it appears to be the duty of the county surveyor, as well of the Company's engineer, to see that they are kept in proper order.

12. The Company seem to do as much as can be expected in giving notice of the running of special trains.

Having now considered the various subjects alluded to in the memorial, I would briefly recapitulate the conclusions arrived at, viz.:—

1. That as regards the constitution of the Directorate, the ordinary Directors might well be reduced in numbers, and if the order in council could be amended, an additional Director should be appointed for the Barony of Corkaquiny, which guarantees half the capital of the railway.

2. That the salaries of the officials are not *per se* excessive, but that some economy might be effected by combining in one the offices of secretary and manager.

3. That as regards the management of the line, there are many matters deserving serious attention, viz., the fact of the secretary being the member of a firm doing business in Tralee, the maintenance of the engines in a thorough state of repair, the hours of running of the trains, the abuse of free passes, the affording of facilities at Dingle Quay for loading trawl and coarse fish, the lowering of the rates for trawl and coarse fish and certain descriptions of goods, and the careful maintenance of the fences.

I would further draw attention to the urgent necessity which exists for providing a small amount of working capital to meet the cost of an additional engine and of the accommodation works absolutely necessary for the proper development of the traffic. If this could be done it would reduce the cost of working expenses, which have now to bear charges properly payable out of capital.

I have, &c.,
C. S. Hutchinson,
Major-General, R.E.

The Assistant Secretary,
Railway Department, Board of Trade.

TRALEE AND DINGLE LIGHT RAILWAY AND TRAMWAY.

COPY OF REPORT

TO THE

BOARD OF TRADE

BY

MAJOR FRANCIS ARTHUR MARINDIN, R.E., C.M.G.,

WITH

RICHARD ADAMS, ESQ., Q.C., LEGAL ASSESSOR,

OF THE

INQUIRY INTO THE ACCIDENT AT CAMP ON MAY 22, 1893,

HELD IN

TRALEE COURT HOUSE ON JUNE 7TH, 8TH, 9TH, AND 10TH, 1893,

TOGETHER WITH THE

EVIDENCE AND APPENDICES.

Presented to both Houses of Parliament by Command of Her Majesty.

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1893

[C.—7074.–I.] *Price 7d.*

TRALEE AND DINGLE LIGHT RAILWAY AND TRAMWAY.

Board of Trade, 8, Richmond Terrace, Whitehall,
London, S.W., 28th June 1893.

SIR,

I HAVE the honour to report, for the information of the Board of Trade, that, in compliance with the instructions contained in the Order of the 29th ultimo, under the provisions of the "Regulation of Railways Act, 1871," 34 & 35 Vict., c. 78., s.s. 7 and 8, I have held a public and formal inquiry into the causes of, and the circumstances attending, a fatal accident which occurred on the 22nd ultimo near Camp, on the Tralee and Dingle Light Railway and Tramway, being assisted by Mr. Richard Adams, Q.C. The inquiry was opened in the court house at Tralee on Wednesday the 7th instant, and was continued upon the three following days, 25 witnesses being examined during the proceedings. Upon the 7th instant, accompanied by Mr. Adams, I made an examination of the scene of the accident, and upon Sunday the 11th instant I travelled over the line with an experimental train, composed of the same number and description of vehicles as that to which the accident happened, but not of the same weight, as the cattle waggons were not loaded.

The following gentlemen appeared to represent certain interested parties, viz. :—

Mr. Thomas Huggard, solicitor, for the Tralee and Dingle Light Railway Company.

Mr. T. Harrington, M.P., instructed by Mr. Murphy, for the Tralee Commissioners.

Mr. B. O'Connor Horgan, solicitor, for the guard of the train, Thomas O'Leary, and for two injured persons.

Mr. Charles Morphy, solicitor, for the representatives of the deceased driver, Alfred Redshaw, for Lord Ventry, and for other ratepayers.

Mr. Daniel G. O'Reardon, solicitor, for two injured persons.

I am indebted to these gentlemen for the assistance rendered by them in the investigation, and to the Company for plans and sections of the line, and drawings of the engine and rolling-stock.

The evidence, which was given on oath, was taken down verbatim, and is appended to this report.

History of the Railway.

The Tralee and Dingle Light Railway and Tramway was constructed under the Act of 1860, 23 & 24 Vict., c. 152, "*to facilitate internal communication in Ireland by "means of Tramroads or tramways,*" as amended by subsequent Acts of 1861, 1871, 1881, and 1883.

In accordance with the provisions contained in these Acts, the undertaking, promoted in 1884, was in July 1884 considered and approved by the grand jury of Kerry and by the Town Commissioners of Tralee, who had before them the deposited plans and sections, the report made by the county surveyor, dated 5th July 1884, and the report of the Board of Works, dated 11th July 1884, copies of which are attached. The scheme was unopposed, was duly passed by the Committee of the Privy Council, and the construction of the line, in accordance with the plans deposited, was finally authorised by an Order in Council, dated 17th September 1888; a copy of the plan being afterwards sent to the Board of Trade, in pursuance of section 52 of the Order in Council, on the 15th October 1888.

There were deviations authorised in 1889, but these were not within some distance of the scene of the accident, and do not affect the case under consideration.

The line was commenced in 1888, was finally completed in 1891, and, under the powers conferred by the Regulation of Railways Act, 1842, 5 & 6 Vict. c. 55, ss. 3, 4, 5, and 6 (copies of which sections are appended), was inspected by the Board of Trade in December 1890, and re-inspected in March 1891, in which month it was opened for traffic.

The entire capital of the line is 150,000*l.*, all of which has been expended, and on 120,000*l.* of which there is a guarantee of 4 per cent. interest by the cess payers of three Baronies and the Tralee Sanitary District in the following proportion, viz. :—

	£
Corkaquiny	60,000
Clanmaurice	15,000
Trughenackmy	39,000
Tralee (Sanitary District)	6,000

The Treasury recoups the guaranteeing bodies to the extent only of 2 per cent. on 120,000*l.*, and these bodies are liable for any excess of the working expenses of the line above the income, which excess during the past year amounted to about 2,600*l.*

Description of the Line.

The line is single, except at stations, and the gauge is 3 ft.

The main line from Tralee to Dingle, on which the accident happened, is 31 miles 52 chains in length, of which 27 miles 61 chains are laid along the side of the public road, and may be considered as a tramway, the remaining 3 miles 71 chains being a light railway through fields and mountain land.

The permanent-way, which is laid in accordance with the specification, mostly consists of:—

1. Flat-bottomed steel rails, weighing 45 lbs. per yard, fished at the joints, and secured to the sleepers by six $\frac{5}{8}$-inch fang-bolts, and 16 dog-spikes, to each 30-ft. rail.
2. Transverse sleepers of larch, Scotch fir, or oak, laid 1 ft. 8 in. apart at the joints, and 2 ft. 10 in. apart elsewhere, the smallest of the sleepers being 5 ft. 11 in. in length and 8 in. × 4 in. in section.
3. Ballast of broken stone.

The steepest authorised gradient has an inclination of 1 in 30, and the sharpest authorised curve has a radius of 3 chains.

Scene of the Accident.

The scene of the accident was near Camp Village, 10 miles 59 chains from Tralee, at the west end of Curraduff Viaduct over the small River Finglass, the rocky bed of which is 31 ft. 3 in. below the level of the rails. The viaduct has two masonry arches of 35 ft. span on the skew, with a masonry parapet, and it is upon a 3-chain curve.

This curve, which extends from 10 miles 54½ chains to 10 miles 61 chains, is provided with a check rail inside the low rail, and the high rail has a super-elevation of between $4\frac{3}{4}$ ins. and 5 ins. Upon this curve the low rail and check rail are laid on cast-iron chairs, secured to the sleepers by large fang-bolts (Great Southern and Western type), the high rail is secured to the sleepers by 11 large fang-bolts in each 30-ft. length, with alternate spikes, and, as upon other sharp curves in the line, iron tie-bars are fitted to hold the rails to gauge.

The curve is a left-handed one to trains running from Dingle to Tralee, and it is approached from the west by a piece of straight line 6 chains in length, following a right-handed curve of 9 chains radius.

The summit level of the railway is at 13 miles 60 chains, or about 3 miles west of Curraduff Viaduct, and from this point the line falls steeply to the viaduct, the gradient shown on the authorised plan being as follows:—

Falling 1 in 31 for 1 mile 52 chains, falling 1 in 30 for 1 mile 1 chain, horizontal for about 3 chains, falling 1 in 30 for 23 chains, and then horizontal for about 7 chains across the viaduct.

These gradients have been slightly modified, and to some extent improved, for there is a length of 16 chains on 1 in 35 half-way down the incline, and, at the foot of the incline, instead of the 1 in 30 gradient running suddenly out on to a horizontal piece across the viaduct, the gradients from Camp Village to the viaduct, a distance of a quarter of a mile, are actually 1 in 35, 1 in 80, and 1 in 100 across the viaduct.

From the summit, at 13 miles 60 chains, to Skylough level crossing, at 12 miles 36 chains, the line is a railway through fields, but from this point to Camp Village it is for nearly the whole distance a tramway along the side of the road, the last few chains from Camp to Curraduff Viaduct being again off the road.

Description of Train.

The train to which the accident happened was a special fair train timed to leave Dingle at 1.5 p.m., Lispole at 1.30 p.m., and Aunascaul at 2 p.m., and to arrive at Castle Gregory junction at 3.10 p.m. and Tralee at 4 p.m.

It was made up as follows:—Engine, seven cattle waggons laden with pigs, one third-class carriage, and guards van.

The following are the weights and lengths over the buffers of the different vehicles composing the train :—

	Weight.	Length over Buffers.
	Tons. Cwts.	Ft. In.
Engine (with tank and bunker half full)	28 0	28 11
Cattle waggon	2 15	16 1
Third-class carriage	3 10	29 1
Guard's van	2 15	16 1

The passenger carriage had two four-wheeled bogies, and the cattle waggons and the guard's van were four-wheeled vehicles.

The total length of the train, including the engine, was 186 ft. 8 ins., and the total weight, including the weight of the engine, and the weight of the passengers and the live stock (estimated at $2\frac{1}{2}$ tons, and 14 tons respectively), was 70 tons.

Description of Engine.

The engine was built by the Hunslet Engine Company at Leeds, was used by the contractors when constructing the line, and was handed over to the Company in 1891.

It is an eight-wheeled tank-engine, with six wheels coupled, and a leading two-wheeled bogie poney truck. The centre pair of the coupled-wheels are not flanged.

The wheel-base is as follows :—

	Ft.	In.
Bogie-wheels to leading-wheels	6	10
Leading-wheels to driving-wheels	4	3
Driving-wheels to trailing-wheels	4	6

The estimated weights on the different pairs of wheels, with tanks and bunker full, are :—

	Tons.
On bogie-wheels	$6\frac{3}{4}$
On leading-wheels	$7\frac{3}{4}$
On driving-wheels	$7\frac{3}{4}$
On trailing-wheels	$8\frac{1}{2}$
Total	$30\frac{3}{4}$

The diameter of the coupled wheels is 3 ft. $\frac{1}{2}$ in., and that of the bogie-wheels is 2 ft.

The diameter of the cylinders is 1 ft. 1 in., and the length of stroke is 1 ft. 6 ins.

The repair books in the shops do not seem to have been very carefully kept, but, as far as can be gathered from the evidence, this engine was put into a proper state of repair when it was first acquired by the Company, and was last thoroughly repaired in November 1892, since which time it has run 8,695 miles. It was also in the shops for repairs on 14th February, 18th March, 24th to 26th March, and 20th to 22nd May. Upon this last occasion a new right-hand side trailing-spring was put in, and the brake-blocks were adjusted, and it was stated in evidence that it was in good running order when it left the shops.

Brakes.

The whole train, including the cattle waggons, was fitted with the automatic vacuum-brake, capable of being applied by the driver, or by the guard if necessary, and working blocks upon every wheel on the train, except the bogie wheels of the engine, so that, out of the total weight of 70 tons, $63\frac{1}{2}$ tons were upon braked wheels.

In addition to this there were ordinary screw hand-brakes upon the engine and the guard's van, and side levers for working the blocks on one pair of wheels of each of the cattle-waggons.

The automatic vacuum-brake was supplied by the Vacuum-Brake Company, and, although the parts were in proportion to the size of the stock, and therefore smaller

than those fitted to ordinary trains, they were of the usual pattern, except that the valve in the guard's van was not fitted so as to open automatically upon a sudden application of the brake by the driver.

Mode of Working.

The line is ordered by the Board of Trade to be worked, and the Company has given an undertaking to work it, dated 2nd March 1891, in accordance with the following rule:—

"The line between (1) Tralee and Camp Junction, (2) Camp Junction and "Aunascaul, (3) Aunascaul and Dingle, (4) Camp Junction and Castle Gregory, "shall be worked by only one engine in steam, or by two or more coupled together, "at one and the same time, such engine or engines to carry a distinct staff for each of "such sections."

Limits of Speed.

The speed of trains throughout this light railway is limited by the Order in Council to 25 miles an hour at any point, and by Board of Trade Order, dated 13th May 1891, issued after the inspection of the line, and following the special recommendations of Major-General Hutchinson, C.B., the officer who made the inspection, the speed was restricted at certain places, to the following extent, viz.:—To 12 miles an hour where the railway is laid along the side of a road, to six miles an hour through any town or village, to two miles an hour at certain street and road crossings, and to five miles an hour.

(1.) At the oblique crossings of all roads when approached on the level or on a falling gradient;

(2.) On the sharp curves on each side of the viaduct at 10 miles 58 chains on the journeys from Dingle to Tralee.

A further limit was imposed by the Company, enjoining a speed of six miles an hour all the way down the incline from Glen-na-galt to and beyond Curraduff Viaduct as will be seen from the following extracts from the instructions issued to the servants of the Company, applying, among other matters, to the use of brakes and speed of trains:—

"Instructions to Engine Drivers and Guards.—Before starting at the beginning of "each journey the train must be examined to see that the brake fittings are in good "working order and tested, also that the engine and all vehicles are properly coupled "and in working order, and that the tender hand-brake is in proper working "condition, and carriage and waggon axles oiled and trimmed."

* * * * *

"Before starting the guard must see that the proper vacuum is registered by the "indicator in his van for the effectual use of the brake.

"All up trains must come to a dead stop at the top of Glen-na-galt incline, and, "if more than three vehicles are on, to pin (*sic*) down the waggon brakes, and the "speed to Scrallaghbeg Cottage not to exceed six miles an hour. After passing this "point the brakes may be lifted. The engine hand-brake must also be used on this "incline."

* * * * * *

"Speed of Trains, &c.—The speed of trains on approaching the junction should "not exceed five miles an hour, and should be reduced to two miles an hour when "passing over the facing-points. Drivers must be prepared to pull up at once if at "any station or gate the signals are against them.

"The speed between Tralee terminus and Great Southern and Western Company's "terminus not to exceed two miles an hour. The speed over the crossings on the "line to be reduced to 10 miles an hour, and over the crossings near Tralee to five "miles an hour. The speed on the county roads, where the line is tramway not to "exceed 12 miles an hour, and where the line is fenced off not to exceed 25 miles "per hour, slowing off to 10 miles an hour for the sharp curves or down the steep "gradients of 1 in 30.

"The drivers must always be prepared to pull up if necessary when on the road in "passing restive horses, cattle, &c.

"In crossing the road at Blennerville from the curve to the station the speed must "on no account exceed two miles an hour.

"In crossing the road at 17¾ miles not to exceed two miles an hour.
"At the oblique crossings of all roads the speed must not exceed five miles an hour.
"On the sharp curves on each side of the viaduct at 10 miles 58 chains not to
" exceed five miles an hour.
"In crossing Lispole Bridge 10 miles an hour."

Details of the Accident.

The train, due to leave Dingle at 1.5 p.m., did not start until about 1.30 p.m., according to the evidence of the guard, who speaks from recollection only as he has lost his notes, and it seems, from the description given by this man, to have lost time all the way. It was in charge of Alfred T. Redshaw, the locomotive superintendent of the line, acting as driver, with fireman Richard Dillon, and permanent-way inspector Bernard Loughlin on the engine, and guard Thomas O'Leary in the guard's van. The vacuum-brake was, by the direction of the driver, and in spite of the guard's remonstrance, cut off before the train started, in order to save the steam which it is necessary to use in keeping the small ejector running, and, in consequence apparently of having no continuous brake in working order, the train, which left Lispole at about 2 p.m., overran the station at Aunascaul, which is near the foot of a steep incline, by a considerable distance, and had to set back past the station to take water at the water-column.

The guard then refused to travel any further without the brake being brought into use, and the train started with a vacuum of about 16 inches, but had not proceeded for above 200 yards when it came to a standstill on a rising gradient of 1 in 32, and had to back into the station again to make a fresh start. After re-starting it again got into difficulties, which, as described by the guard, continued for the greater part of the way to Emalough, a distance of 2¾ miles, the engine coming to a stand at several places, and being unable at two places at least to start again for nearly half an hour.

About half way up the incline, between Emalough and the summit, the train again stopped, and, after some discussion between the guard and the driver, the vacuum-brake was cut off upon reaching a level piece of line, and the train proceeded without any further stop until it reached Glen-na-galt, the summit, where, as usual, it was brought to a stand.

In accordance with the regulations the side levers working the waggon-brakes were then pinned down by the guard, assisted by the permanent-way inspector Loughlin, who was riding upon the engine throughout the journey, and after a short delay the driver, after blowing up the vacuum to 17 inches, as stated to be shown by the gauge in the guard's van, started his train. It is unfortunate that there is no accurate record of the time and place of all the delays, and of the time at which the train commenced the descent of the incline to Curraduff Viaduct; but, whereas this train was due at Castle Gregory junction, three-quarters of a mile beyond Curraduff Viaduct, at 3.10 p.m., it would appear from the evidence of Walter Darey that the accident occurred soon after 20 minutes to 5 p.m., and therefore probably the train left Glen-na-galt at about 25 minutes to 5.

Owing to the death of all the men (three) upon the engine, the only servant of the Company who can speak to the subsequent events, between the time that the train left Glen-na-galt and the time at which the accident happened, is the guard, Thomas O'Leary, and according to his statement, the driver made an unusually quick start, and entirely lost control over his train very soon after it had started, but, judging from the evidence of John Driscoll the gatekeeper at Skylough crossing, about a mile down the incline, and to some extent from the evidence of Mr. Singleton Goodwin, the county surveyor, who, when walking towards Castle Gregory junction, saw the train from a distance, the speed at this point, although greatly in excess of the regulated speed of six miles an hour, does not appear to have been so great as the guard estimates it to have been. However, whether or not the driver had lost control over his train before reaching Skylough crossing, it is certain that he must have done so shortly afterwards, for there is little doubt that when the train reached the viaduct the speed was very high, probably nearly 40 miles an hour, and after entering the sharp curve west of the viaduct the engine left the rails on the right-hand side over the high rail of the curve, and with the exception of the rear van which remained upon the line, across the rail, with the leading end against the parapet of the viaduct, and with the coupling broken, and, the third-class carriage which came to rest upon the embankment, with the leading end downwards, the whole train was precipitated

into the bed of the river, the waggons being piled up in a heap and completely wrecked, and the engine being found on its left side at the far side of the river, 49 yards from the point where it left the rails, turned nearly at right angles to the line, with the leading end pointing towards the viaduct.

The cab was detached, and the three men who had been riding on the engine were underneath it terribly injured, Redshaw living for only a few minutes, and Dillon and Loughlin dying the same evening after their removal to Tralee.

There were about 37 passengers in the train, nine of whom were in the guards van, which remained on the line, and the remainder in the third-class carriage, and of these passengers it is stated that 13 were injured, some of them seriously.

(A nominal roll of the killed and injured persons is appended).

There were about 50 pigs killed and a great number injured, the engine and seven cattle waggons were practically destroyed, and the passenger carriage and guard's van were much damaged.

Causes of the Accident.

In this case it is most remarkable that there was no trace left upon the top of either the high rail of the curve, or the check rail inside the low rail, of any wheel flange running over the rail, that there was very little disturbance of the road, and that the first mark upon the permanent-way of any wheel having left the rails was outside the high rail upon the end of a sleeper. There was a cut upon this sleeper, the thirtieth sleeper east of the commencement of the check rail, and 78 feet east of the commencement of the 3-chain curve, the 22 next sleepers towards the viaduct had the ends cut off, and two sleepers were driven forward, the fastenings under the high rail being drawn, but the fastenings under the low rail and the check rail not being disturbed.

The radius of the curve at the point where the first mark occurred was three chains, and, although nearer to the viaduct I found that the curve became sharper, having a radius of only $2\frac{1}{2}$ chains, that was probably due to the line being somewhat hastily restored after the accident.

The gauge round the curve was fairly regular, ranging between $\frac{5}{8}$ in. and 1 in. slack, and the super-elevation was even, being between $4\frac{3}{4}$ ins. and 5 ins. The check rail was not much worn.

There was nothing whatever in the condition of the line, or of the engine, to lead to the conclusion that the run-off was caused, or was contributed to, by any fault in the permanent-way or rolling-stock, and it may be as well here to mention that, although it was hinted in the evidence of Mr. Hickson, the engineer of the line, that a fang-bolt which was found in the bed of the river two days after the accident might have been upon the rail where the engine ran off, there was no such mark upon either the fang-bolt or the rail as would probably have been found if the bolt had been run over by an engine wheel when lying upon the rail, and I am satisfied that the accident was not due to any obstruction of this kind or to any interference with the rails elsewhere.

It is indeed quite unnecessary to search for any explanation of the fact of the engine leaving the rails, beyond the speed at which both the evidence, and the position of the train after the accident, show that it must have been running, and it is perfectly clear that the immediate cause of this deplorable disaster was excessive speed upon a very sharp curve, where the Board of Trade have imposed a limit of five miles an hour, which limit cannot be disregarded with safety.

It is, however, not so easy to account for the train having been allowed to attain such a high rate of speed in coming down the incline from Glen-na-galt, and the fact that, owing to the death of the three poor fellows who were upon the engine, there is no direct evidence forthcoming as to the action of the driver, the pressure of steam upon the engine, or the behaviour of the vacuum-brake after leaving the summit, makes it all the more difficult to come to a positive conclusion.

What is almost certain is, that the evidence of the guard, which is the only evidence referring to the application of the continuous-brake, cannot be absolutely correct; but it is not to be wondered at that a man in his position should be unable to remember, with entire accuracy, the sequence of events during the terrifying journey down this incline.

He states that the whole of the waggon-brakes were pinned down before the train started from the summit, as no doubt they were, that the driver blew up the vacuum to 17 ins., which it may be remarked was 1 in. under the amount at which it is ordered to be maintained, that the engine was started at an unusually high speed, that

he at once put on his hand-brake, and that the vacuum-brake was applied at full power before the train had run for more than 20 or 30 yards.

Now, however sharply the engine was started, it could hardly have attained such a speed in a distance of 30 yards, with the brakes pinned down upon seven out of the nine vehicles in the train, and the guard's brake applied upon another, that it would not have been brought to a stand if the vacuum-brake had been applied and kept on at full power, even with the rails in the worst possible condition for stopping upon as they undoubtedly were upon that afternoon, and with only 17 ins. of vacuum.

It may therefore, I think, be assumed that, if the guard be correct in stating that there were 17 inches of vacuum when the train started, he is mistaken as to the point where the brake was first applied at full power.

The guard says further, and he is supported by the evidence of Thomas Rearden one of the passengers in the van, that he did not open the valve in his van to apply the vacuum-brake, until just before the engine went over the embankment, although he did release and re-apply his hand-brake about a mile down the incline, when he thought that the wheels of his van were skidding.

He believesthat the vacuum-brake remained on all the way down, at least he did not at any time perceive any indication upon his dial of the driver having blown up the vacuum; but, as he was for part of the time looking out of the window, he may be, and probably is, mistaken on this head.

He estimates the speed at 30 miles an hour at Skylough crossing, and at that point was under the impression that the driver had lost control over his engine, and he describes how rapidly the speed increased, although he states that he could see fire flying from the engine wheels, which were evidently skidding at the time.

It appears from the evidence of the fitter, Charles Ellerker, that the brake-blocks on the engine had been adjusted that morning, and that the brake upon this engine when it was attached as pilot-engine to the morning train fromTralee to Dingle worked satisfactorily, as also appears to have been the case from the evidence of driver Harry Quinn, who was driver of the train-engine on that train; while the carriage-examiner, James Murphy, states that, when the vehicles composing the train were last examined at Tralee, at a date which he cannot fix, but believes to have been about two or three days previously, the brakes upon them were in good order.

In order to ascertain what would be the effect of the application of the vacuum-brake upon a train of nine vehicles, running at different speeds, upon inclines of 1 in 32 and 1 in 30, I arranged to travel up from Dingle on a train made up exactly in the same order as that to which the accident happened, and, although it was not practicable to have the train loaded in a similar manner, and the rails were in very good condition, instead of being very greasy as upon the afternoon of the accident, the experiments, while they cannot be taken as an absolute indication of what probably happened upon that occasion, were not without value.

The total weight of the train was 25 tons 10 cwt., or 55 tons 10 cwt. including the engine, but excluding the weight of the few people who were travelling in it, while the engine, the only one available, weighed about 2 tons more than the No 1. engine, the one which was wrecked by the accident.

I found that with 120 lbs. of steam the vacuum could be blown up to 20 inches in 15 seconds, by the use of the large ejector, but that a vacuum of only 11 ins. could be obtained by the small ejector in four minutes; that when the valve in the guard's van was fully open, after applying the brake, a vacuum of 15 inches could be obtained by the use of the large ejector, but that the brake-blocks remained on upon half the train; that when the brakes were applied, and both ejectors shut, the brakes leaked off all the vehicles except the engine and four waggons, in $7\frac{1}{2}$ minutes, and off the whole train in 9 minutes; that when the small ejector was not kept running the vacuum sank to 5 ins. in $\frac{3}{4}$ minute, and to zero in $2\frac{1}{2}$ minutes; and that with 79 lbs. of steam it was possible to obtain a vacuum of 15 ins., but no more. One of the washers on a connecting hose-pipe had been found to be defective, and was replaced, but it was evident from the above results that there was a leak in some other place which could not be detected, and this was also shown by the fact that, when running, with the brake-handle in the running position and the small ejector therefore open, the vacuum could not be maintained above 15 ins., and the large ejector had to be used to blow up the vacuum before applying the brake. The following were among the stops I made on the journey :—

1. Gradient, falling 1 in 30; speed, 24 miles an hour: 20 inches of vacuum. Stopped in 120 yards by use of the vacuum-brake only.
2. Gradient, falling 1 in 32; speed, 25 miles an hour; 17 inches of vacuum. Stopped in 156 yards by use of the vacuum-brake only.

3. Gradient, falling 1 in 32; 17 inches of vacuum; started as sharply as possible from rest; vacuum-brake applied after running 50 yards. Stopped train in 50 yards.

In coming down the incline to Curraduff with the waggon-brakes pinned down, the engine hand-brake on, and the guards-brake rubbing, the speed never exceeded seven miles an hour, although the vacuum-brake was only once momentarily applied.

The result of these experiments certainly confirmed my opinion, that, if proper care be used, the brake power available on these trains is ample to enable a driver to keep control over his train on the incline of 1 in 30, even if the brakes are in a somewhat leaky condition, as was the case in the train by which I travelled.

If, however, a driver with a brake in this condition were to allow his train to get at all out of hand, it is probable that, unless he were very experienced in the handling of the brake, he would soon find himself without any brake power left.

It is clear from the evidence that the driver of the train to which the accident happened had the greatest possible difficulty in maintaining a proper head of steam when coming up from Dingle to Glen-na-galt, so much so, that he deliberately acted in contravention to the well understood rule, and most improperly put the vacuum-brake out of work altogether in order to save the small amount of steam used to maintain the vacuum when running. The unfortunate man was not a trained driver, although he had on several occasions driven trains upon this line, and the difficulty he experienced in keeping up steam is precisely what might have been expected under the circumstances, for it is well known that the maintenance of steam is one of the duties in which a well-trained driver has the greatest possible advantage over an inexperienced one. It is stated that before starting down the incline from Glen-na-galt he blew up the vacuum to 17 ins., but there is no evidence to show what amount of steam he had upon the engine, and it is more than probable that he had not very much.

Although in some respects it can only be a matter of surmise, it is my belief that the driver started from the top of the incline at far too a high a rate of speed (and for this there may have been a reason to which I will refer presently,) that, when he endeavoured to check the speed of his train he found that, owing to the greasy state of the rails, the brakes were not taking effect so quickly as he expected, that he then began to try to blow up a more effective vacuum, which, owing partly to want of steam, and partly to the brake-pipes and connections being leaky, he was unable to obtain, and that after doing this two or three times, he lost all the brake power he had had, and was powerless to do more than keep his engine hand-brake hard on, as the sparks seen by the guard to be flying from the wheels of the engine, (but not, it should be noted, from the wheels of the other vehicles,) show that he did actually do. As a last resource, and having under the circumstances done everything in his power to avert the disaster, he evidently reversed his engine, although this would have had but little effect, and he and his fireman pluckily stuck to their engine doing their best to the last moment.

While therefore, the immediate cause of the accident was, as I have stated, excessive speed, I consider that the running away of the train to which the ultimate catastrophe must really be attributed, was due:—

1st. To the too rapid start made from the top of the incline.

2nd. To the train being in charge of a driver with insufficient experience in regard to the maintenance of steam, and the manipulation of the continuous-brakes.

3rd. To the very greasy state of the rails.

4th. (Probably.) To the brake connections being in a leaky condition.

A possible reason for the driver starting too quickly may be found in the fact that, owing to loss of time on the journey, he was nearly two hours late, and was anxious to get ahead as fast as possible out of the way of the regular train which left Dingle at 3.30 p.m., and had already left Aunascaul, and, if this be so, a heavy responsibility falls upon the Company, who, in contravention of an undertaking given by them to the Board of Trade, have been running trains not carrying a staff, and with tickets only, without having first established block-working, for if block-working had been in force, the 3.30 p.m. train would not have been allowed to leave Aunascaul until the preceding train had reached Castle Gregory junction, and the driver of the special train need not have been in any anxiety about it. As it was, a second and worse accident might have occurred, if the guard, Thomas O'Leary, had not been prompt in going or sending back to stop the 3.30 train, and if the driver of this train had not had it well under control.

Alfred T. Redshaw, the driver, was a young man of excellent character, who had been in the service of the Company in charge of the locomotive shops for about

7½ months, and had come with first rate testimonials, as a fitter, after 11 years' service with the Great Northern Railway Company (Ireland); but although Mr. Parkes, the manager of the Tralee and Dingle Railway Company, himself not a trained driver, gives it as his opinion that Redshaw was a competent driver, and he had several times acted in that capacity, the man had never been trained as a driver, and it does not appear that any steps whatever were taken to ascertain whether or not he was able to drive, but that his statement that he could do so was accepted as correct. Now it is the greatest possible mistake to suppose that because a man is a good locomotive fitter he can drive an engine, or that because a man can drive an engine under ordinary circumstances, he is as fit as a properly trained driver to cope with such difficulties as would appear to have arisen on this occasion, and I consider that it was most improper to have allowed this man to undertake the duty of driving, especially upon a line of such a character as the Tralee and Dingle Railway, without first ascertaining that he was a thoroughly competent driver.

Richard Dillon, the fireman, who had been only a month in the service, during which time he had been working regularly between Tralee and Dingle, had been properly trained on the Great Southern and Western Railway, and came with a recommendation from the district locomotive superintendent of that Company.

Bernard Loughlin, the permanent-way inspector, had been a year in the service of the Company, was well acquainted with the line, and had previously been for many years in the service of the Great Northern Railway (Ireland).

The daily hours of duty of these three men were from 7 a.m. to 7 p.m., with two hours off during the day.

In conclusion, although in my opinion it is perfectly safe to run round a properly laid 3-chain curve upon a 3-feet gauge, at a speed of five miles an hour, and although there should be no danger of a train exceeding this speed at Curraduff Viaduct, if due care be observed and the limit of speed when coming down the incline be strictly adhered to, yet, having in view the grave risk due to the position of this curve at the bottom of the steep incline, if from any cause a descending train should happen to get out of control, I consider that it is most desirable that, if by any possibility it can be managed, a deviation of the line in a southerly direction, which would improve both the gradients and the curves, should be made.

The difficulty in the way of this improvement being carried out, and indeed the difficulty in the way of providing the highly trained staff necessary upon a line of this description, of maintaining the rolling-stock in a proper condition both as regards quantity and state of repair, and of effecting other desirable improvements upon this cheaply-made line, is undoubtedly want of money.

The guaranteeing bodies are already heavily rated, the amount of rate due for the guaranteed interest on the capital of this railway, and the excess of the working expenses over the receipts, being, I am informed, 2*s.* 2*d.* in the pound, in one barony, while the costs of this accident, which must be very heavy, will fall upon the working expenses for the current half-year, and therefore on the cess payers in the guaranteeing area.

Under these circumstances it is difficult to see how the sum necessary to make any improvements in the direction which I have indicated, which are most desirable in the interest of the public, could be raised without some grant in aid.

I would strongly recommend the Company to have their engines carefully examined by an experienced locomotive engineer with the view of ascertaining whether they can be improved in such a way as to render them more capable than they appear to be, of taking a heavy train up the steep inclines, and, if nothing can be done, to limit the load to such a weight as the engines are able to cope with, employing assistant engines when the load exceeds that weight; and I would also recommend them to adopt a similar course in regard to the vacuum-brake, which does not appear to me to be in first-rate order, upon some of their stock at any rate, and to issue more definite instructions as to the method of working this brake, especially in regard to the amount of vacuum to be maintained, and to the continuous and constant use of the small ejector.

I have, &c.,
F. A. Marindin,
Major, R.E.

The Assistant Secretary,
Railway Department, Board of Trade.

I concur in the above Report.
Richard Adams, Q.C.

APPENDIX.

(A.)

List of Killed.

Alfred T. Redshaw, Richard Dillon, and Bernard Loughlin.

List of Injured.

Denis Power, Michael Power, John Power, Edward Murphy, Richard Dennehy, Thomas Riordan, John Talbot, senior, John Talbot, junior, John Sheehan, Eugene Slattery, ——— McMahon, William Hanrahan, and John Dillon.

(B.)

REPORT OF COUNTY SURVEYOR.

Tramways Act, 1860; 23 & 24 *Vict.*, *cap.* 152, *Section* 5.

The Tralee and Dingle Light Railway or Tramway.

No. 1.—Length, 37 miles, 6 furlongs, 3 chains.
Cost, 120,000*l.*, or per mile 3,176*l.*

To include cost of construction, preliminary charges, land, legal and other expenses, engines, carriages, waggons, &c.

Mr. Foreman and Gentlemen,

This tramway commences near the goods store of the Limerick and Kerry Railway, and terminates at a point 383 yards south of the stone pier at the south side of the entrance of the coastguard station at Dingle.

For two-thirds of the length it runs along the mail car road.

There are two curves of 3 chains, or 66 yards radius.

Forty-one public roads are to be crossed on a level.

The grades, one-third the length, have a grade of from 1 in 30 to 1 in 32, the remainder vary from 1 in 32 to horizontal.

Twenty-five bridges are to be crossed; these bridges are old and will require to be strengthened.

No. 2 commences at the termination of Tramway No. 1, as heretofore described, and terminates in the town of Dingle at a point nine yards in a northerly direction from the north-west corner of Dingle Pier.

It is 3 furlongs 3½ chains in length, half the length runs along the mail car road, and the remainder along the foreshore of Dingle Bay.

Castle Gregory Branch.

No. 3 tramway commences in the townland of Knockglassmore by a junction with Tramway No. 1, at a point in a field in the occupation of Patrick Fitzgerald, 550 yards, or thereabouts, in an easterly direction from the centre of the eastern pier of the entrance gate of Knockglassmore House, and terminates in a field of John Callaghan's townland of Martramane, parish of Killiney, barony of Corkaguiny, and county of Kerry, at a point 220 yards in a northerly direction from the centre of a bridge over the townland boundary of Martramane, Coolroe.

At starting it goes above the mail car road for two furlongs, then crosses it, after crossing Bunnow Bridge it runs along the road to Castle Gregory for 4½ miles.

The curves are fair. The grades are 1 in 32 for 2½ furlongs, the remainder vary up to 1 in 1,300. Ten public roads are to be crossed on a level, and six bridges.

No. 4 commences in a field in the occupation of the Great Southern and Western Railway, 80 yards eastward, parallell to the Great Southern and Western Railway line from the south-eastern end of the passenger platform of the said railway, and ending at a point in Tramway No. 1, in Rock Street, townland of Balloonagh, 70 yards south from the south pier of the level crossing gate of Limerick and Kerry Railway.

I have, &c.,
(Signed) W. H. Deane, C.E.,
County Surveyor, County Kerry.
Tralee, 5th July 1884.

(C.)

REPORT OF BOARD OF WORKS.

And whereas we have received a communication from the Lords of the Committee of Privy Council appointed for the consideration of matters relating to trade and foreign plantation, dated 9th July 1884, requiring that clauses should be inserted in any order which may be granted to the promoters of the said undertaking by his Excellency the Lord Lieutenant in Council to the following effect:—First, to provide for the protection of navigation; and second, to save the rights of the Crown in any tidal lands which may be interfered with by the proposed tramway works.

And we hereby recommend in pursuance of section 41 of the said Act that clauses to the foregoing effect should be inserted in such order accordingly, and that a copy of the order when made should be forwarded to the said Lords of the Committee of Privy Council.

Given at the office of Public Works, Dublin, this 11th day of July 1884.

(Signed) R. H. Sankey,
W. R. Le Fanu,
Commissioners of Public Works in Ireland.

The Tralee and Dingle Light Railway and Tramway.

Whereas we, the Commissioners of Public Works, did, in pursuance of section 9 of the Tramways (Ireland) Act, 1860, by Benjamin F. Fleming, Esq., civil engineer, appointed by us for such purpose, make public inquiry as directed by the provisions of the said Act, as amended by the Tramways (Ireland) Amendment Act, 1861.

And whereas the said B. F. Fleming duly made his report to us, dated 9th day of July 1884, which report is hereunto annexed.

Now we, in pursuance of the Acts herein-before mentioned, do report that as regards the merits of the undertaking in an engineering point of view, the proposed Tralee and Dingle Light Railway and Tramway can be efficiently constructed and worked in accordance with the plans and sections deposited with us.

And we do further report that the said undertaking should be modified and carried out in the manner suggested by the said report of the said B. F. Fleming, which report we incorporate herewith, and declare that same shall be read as portion hereof.

Tralee and Dingle Tramway.

I held a public inquiry into the engineering merits of the above undertaking at the Court House, Tralee, on the 23rd day of June last, and beg to submit the following to the Commissioners of Public Works as my report thereon:—

Mr. Huggard, solicitor, and Mr. Hickson, civil engineer, attended on the part of the promoters. There was no opposition.

The undertaking consists of a tramway (chiefly on the public road) from the stations of the Great Southern and Western and the Limerick and Kerry Railways at Tralee to the pier at Dingle, with a branch of the town of Castle Gregory. It is divided into four tramways, Nos. 1, 2, 3, and 4.

The lengths being :—

	On Roads.			Through Fields, &c.			Total.		
	M.	F.	C.	M.	F.	C.	M.	F.	C.
Tramway, No. 1 -	26	4	8	4	1	$3\frac{3}{4}$	30	6	$1\frac{3}{4}$
„ No. 2 -	0	1	$7\frac{1}{2}$	0	1	7	0	3	$4\frac{1}{2}$
„ No. 3 -	4	2	7	1	6	4	6	1	1
„ No. 4 -	0	0	6	0	2	$9\frac{3}{4}$	0	3	$5\frac{3}{4}$
Total - -	31	1	$8\frac{1}{2}$	6	4	$4\frac{1}{2}$	37	6	3

Tramway No. 1 commences at the Tralee station of the Limerick and Kerry Railway, passes through the the town of Tralee, crosses the River Lee close to and at the east side of the bridge over it near Blennerville, passes through the village of Blennerville, and close to the villages of Anniscaul and Camp, and terminates a quarter of a mile from the town of Dingle in a field beside the public road leading from Dingle to Tralee in the townland of Farran and parish of Dingle.

Tramway No. 2 commences at the termination of Tramway No. 1, and is a continuation of it, passes close to the entrance gate to the revenue station, and along and near the edge of the strand, and terminates at the north end of Dingle Pier.

Tramway No. 3 commences by a junction with Tramway No. 1 in the townland of Knockglassmore, and parish of Kilgobban, at 9 miles 3 furlongs 2 chains on Tramway No. 1, and running principally upon the public road it terminates at the south end of the town of Castle Gregory.

Tramway No. 4 commences beside the Great Southern and Western Railway six chains to the east of the passenger station at Tralee, and terminates by a junction with Tramway No. 1, at 1 furlong 3 chains on that tramway.

The gauge proposed is three feet.

Tramway No. 1 :—
The steepest gradient is 1 in 30.
The ruling gradient is 1 in 30.
The sharpest curve has a radius of $2\frac{1}{2}$ chains.

Tramway No. 2 :—
The steepest gradient is 1 in 41.
The ruling gradient is 1 in 41.
The sharpest curve has a radius of $9\frac{1}{2}$ chains.

Tramway No. 3 :—
The steepest gradient is 1 in 32.
The ruling gradient is 1 in 32.
The sharpest curve has a radius of $4\frac{1}{2}$ chains.

Tramway No. 4 :—
The steepest gradient is 1 in 66.
The ruling gradient is 1 in 66.
The sharpest curve has a radius of $2\frac{1}{2}$ chains.

On Tramway No. 1 the gradients are favourable from the commencement to 9 miles 4 furlongs 5 chains, but at this point begins a long ascent to summit at 13 miles 1 furlong 1 chain, the gradients being as follows :—

	M.	F.	C.
Rising 1 in 38 for - -	0	4	0
Level „ - -	0	0	7
Rising 1 in 30 „ - -	0	2	3
Level „ - -	0	0	3
Rising 1 in 30 „ - -	1	0	1
Rising 1 in 31 „ - -	1	5	2
Total length -	3	4	6

On this incline the line is fairly straight with the following four exceptions :—On the 1 in 38 (in the middle of it), there is a curve of seven chains radius for a length of five chains, on the first level portion there is a curve of three chains radius for its whole length, on the second 1 in 30 ($2\frac{1}{2}$ furlongs from the top of it), there are two curves reversing of four chains and five chains radius respectively, for a length of six chains, and on the 1 in 31, three furlongs from the bottom of it, there is a curve of five chains radius for a length of one furlong.

At the summit there is a level portion for a length of five chains, and then a gradident of 1 in 30 falling towards Dingle for a length of one mile; on this incline the line is tolerably straight with one exception, there being a curve of nine chains radius near the top of it for a length of $4\frac{1}{2}$ chains; on the remaining portion of this Tramway (No. 1) there are three other inclines falling towards Dingle, viz., at $17\frac{1}{2}$ miles of 1 in 34 for a length of a mile; at 19 miles of 1 in 30, 1 in 31, 1 in 32 and 1 in 41 for a total length of 1 mile 7 furlongs 8 chains, the 1 in 30 (10 chains long) being at the top of this incline, and at $25\frac{1}{4}$ miles of 1 in 30 for a length of 1 mile 1 furlong; on the last of these inclines (1 in 30) there is a short curve of nine chains radius; on the other two inclines there is no bad curve.

Generally where the tramway runs along and upon the public road, it is intended to form it upon a raised path (like a footpath) along the side of it, but where it passes through streets or villages, it is intended that the upper surface of the rails shall be on the level of the surface of the road.

Where the tramway shall be upon the public road or streets, and the upper surface of the rails on the level of the surface thereof, it is proposed that the spaces between rails and sleepers shall be filled with ordinary macadam well grouted and rolled, the flange of the wheels forming their own groove.

The rails proposed to be used are intended to be steel, Vignoles pattern, weighing 40 lbs. to the yard, fished at the joints with steel fish-plates, to be secured to sleepers by dog-spikes and fang-bolts at joints and intermediate places.

The sleepers are proposed to be of timber, 9 inches by 4 inches and 6 feet long, laid 2 feet 10 inches apart, except at joints, where they are intended to be 1 foot 6 inches apart on a bed of ballast, the lower 6 inches of which is intended to be pitched.

Where the tramway shall be upon a raised path at the side of the road, it is proposed that a channel course shall be formed at the road side of the tramway connecting with built gully-traps and drain pipes laid underneath the tramway connecting with road-side ditches.

It is proposed to have passing places at intervals of about one every three miles, the additional line required for these and for sidings will be laid generally upon land to be acquired for the purpose.

It is proposed to have eight stations, viz. :—

	M.	F.	C.
Tralee—			
Blennerville, at - - -	2	2	0
Junction of Tramway No. 3 -	9	3	0
Camp, at - - -	10	4	0
Aunnascaul, at - - -	19	4	5
Lispole, at - - - -	26	0	0
Dingle—			
Castle Gregory—			

Locomotives proposed to have two pair of wheels (coupled). Wheel base, six feet; weight not to exceed eight tons on a pair of wheels. Passenger carriages to be constructed on bogie frames, and to have inside longitudinal seats; weight about five tons. Cattle trucks to be capable of carrying eight to ten cattle; goods waggons to weigh about two tons.

It is proposed to make use of 33 public road bridges and culverts (varying in span from 4 feet to 31 feet), either wholly or partially (some of them having to be widened from 3 feet to 9 feet). All of these bridges with the exception of one (at 3 miles 3 furlongs 8 chains on Tramway No. 1) appear sufficiently strong for the tramway traffic. I

recommend that if, in the opinion of the county surveyor, any bridge, culvert, or drain proposed to be used for the tramway shall be insufficient in strength, width, or otherwise for the tramway traffic, such works shall be executed in connection therewith as he may require.

I recommend the following modifications to be carried out in construction of these tramways:—

That where the tramway is upon the road, and the uppermost surface of the rails on the level of the surface of the road, the rail to be used shall be a grooved rail, and that the surface of the road shall be finished with such paving or metalling as the county surveyor may require.

That where a grooved rail is used it shall be laid upon longitudinal timber sleepers, or upon a bed of cement concrete 12 inches deep, below the surface of the road, and that the rails shall be kept in gauge with three wrought iron tie-bars in each rail, in straight lines as well as in curves.

That where the Vignoles rail is used the sleepers shall be not more than 2 feet 6 inches apart (centres), and that they shall be boxed up to their upper surface in the spaces between, and also for a width of at least 12 inches outside their ends.

That where the tramway shall be on a raised path on the side of the road there shall be such kerbing, pitched slope, or walling, as the county surveyor may require, between the tramway and the roadway. Where curbing is used its height shall not exceed 8 inches above the surface of the road. That the clear width between the fence at the field side of the tramway and the rail next to it, and between the outer edge of the curbing and the rail next to it, shall be such as the county surveyor may require, and that the drainage of the roads shall be provided for by such drains, under and parallel to the tramway as the county surveyor may require.

That the Vignoles rail shall weigh not less than 45 lbs. to the yard, and the grooved rail not less than 56 lbs. to the yard.

I recommend that all works upon or in connection with any public road be carried out to the satisfaction of the county surveyor.

I recommend that special and ample brake power shall be provided and always ready for use on the heavy inclines.

With reference to the general engineering merits of the undertaking, I am of opinion that, having regard to the object of uniting Dingle and Castle Gregory with Tralee by means of a road tramway, that object could not be better attained than by the route the proposed tramway take.

The country is mountainous, and although there are long heavy inclines I am of opinion that with powerful engines and an assistant engine for heavy loads on those inclines, the proposed tramway may be efficiently worked.

The accompanying tracings were supplied by Mr. J. H. Ryan, C.E.

(Signed) Benjamin F. Fleming,
35, Dawson Street, Dublin,
9th July 1884.

(D.)

Regulation of Railways Act, 1842.
5 & 6 Vict. c. 55.

Opening of railways. Repeal of 3 & 4 Vict. c. 97. ss. 1 and 2.

3. And whereas by the said recited Act it is enacted that after two months from the passing of the said recited Act no railway or portion of any railway shall be opened for the public conveyance of passengers or goods until one calendar month after notice in writing of the intention of opening the same shall have been given by the Company to whom such railway shall belong to the Lords of the Committee of her Majesty's Privy Council appointed for trade and foreign plantations; and whereas by the said recited Act it is also enacted that if any railway, or portion of any railway, shall be opened without due notice as aforesaid, the Company to whom such railway shall belong, shall forfeit to Her Majesty the sum of twenty pounds for every day during which the same shall continue open, until the expiration of one calendar month after the company shall have given the like notice as is hereinbefore required before the opening of the railway, and any such penalty may be recovered in any of Her Majesty's courts of record; be it enacted, That the said recited provisions of the said Act shall be and they are hereby repealed.

Notice of intended opening to be given to Board of Trade. [Extended by 34 & 35 Vict. c. 78. s. 5.]

4. And be it enacted, That no railway, or portion of any railway, shall be opened for the public conveyance of passengers until one calendar month after notice in writing of the intention of opening the same shall have been given by the company to whom such railway shall belong to the Lords of the Committee of Her Majesty's Privy Council appointed for trade and foreign plantations, and until ten days after notice in writing shall have been given by the said company to the Lords of the said Committee of the time when the said railway, or portion of railway, will be, in their opinion, sufficiently completed for the safe conveyance of passengers, and ready for inspection.

Penalty for opening without notice. [Extended by 34 & 35 Vict. c. 78. s. 5.]

5. And be it enacted, that if any railway or portion of any railway shall be opened without such notice as aforesaid, the company to whom such railway shall belong shall forfeit to Her Majesty the sum of twenty pounds for every day during which the same shall continue open until the said notices shall have been duly given and shall have expired; and every such penalty may be recovered in any of Her Majesty's courts of record, or in the court of session, or in any of the sheriffs' courts in Scotland.

Board of Trade may postpone the opening if inspecting officer report that the same would be attended with danger. [Extended by 34 & 35 Vict. c. 78. s. 5.] [Amended by 36 & 37 Vict. c. 48. s. 6.]

6. And be it enacted, that if the officer or officers appointed by the Lords of the said Committee to inspect any such railway or portion of railway shall, after inspection thereof, report in writing to the Lords of the said Committee that in his or their opinion the opening of the same would be attended with danger to the public using the same by reason of the incompleteness of the works or permanent-way, or the insufficiency of the establishment for working such railway, together with the grounds of such opinion, it shall be lawful for the Lords of the said Committee, and so from time to time as often as such officers shall, after further inspection thereof, so report, to order and direct the company to whom such railway shall belong to postpone such opening for any period not exceeding one calendar month at any one time until it shall appear to the Lords of the said Committee that such opening may take place without danger to the public; and if any such railway or any portion thereof shall be opened contrary to any such order and direction of the Lords of the said Committee, the company to whom such railway shall belong shall forfeit to Her Majesty the sum of twenty pounds for every day during which the same shall continue open contrary to such order and direction, and any such penalty may be recovered in any of Her Majesty's courts of record, or in the court of session or in any of the sheriffs' courts in Scotland: Provided always, that no such order as aforesaid shall be binding upon any railway company unless therewith shall be delivered to the said company a copy of the report of the officer or officers on which such order shall be founded.

Proviso.

BOARD OF TRADE INQUIRY INTO THE ACCIDENT AT CAMP ON MAY 22, 1893,

HELD IN

TRALEE COURT HOUSE ON JUNE 7TH, 8TH, 9TH, AND 10TH, 1893,

BY

MAJOR FRANCIS ARTHUR MARINDIN, R.E., C.M.G.,

WITH

RICHARD ADAMS, ESQ., Q.C., LEGAL ASSESSOR.

The inquiry opened at Tralee Court House on Wednesday, June 7th, 1893, at 11 o'clock.

(*Major Marindin.*) In opening this inquiry I will read the terms of the appointment made by the Board of Trade for this purpose :—

"Whereas by the Regulation of Railways Act, 1871, it is provided that the Board of Trade may direct an inquiry to be made by an inspector into the cause of any accident, of which notice is, for the time being, required by, or in pursuance of the said Act, to be sent to the Board of Trade, and where it appears to the Board of Trade, either before or after the commencement of any such inquiry, that a more formal investigation of the accident, and of the causes thereof, and of the circumstances attending the same, is expedient, the Board of Trade may, by order, direct such investigation to be held : And whereas it is by the same Act further provided that the Board of Trade may appoint any person or persons possessing legal or special knowledge to assist an inspector in holding the same : Now, therefore, the Board of Trade, in pursuance of the powers conferred on them by the said recited Act, do hereby direct a formal investigation to be held into the causes of, and circumstances attending an accident which took place at Camp, on the Tralee and Dingle Light Railway and Tramway, on the 22nd instant ; and further, in pursuance of the powers conferred on them by the said recited Act, do hereby appoint Major Francis Arthur Marindin, R.E., C.M.G., as inspector to hold the said investigation, and Richard Adams, Q.C., to assist the said inspector in holding the same. Given under my hand this 29th day of May 1883.

(Signed) COURTENAY BOYLE,
Secretary to the Board of Trade."

Mr. Adams and I, after a discussion as to the best mode of procedure to adopt in order to enable us to arrive at a conclusion as to the cause of this lamentable accident, have decided that we ourselves will call and examine witnesses, servants of the Company, and others, who are in a position to give us information, or to produce such documents as we may require, and that those witnesses will be subject to cross-examination, within due limits, by those representing parties whom Mr. Adams, as my legal assessor, may consider to have a right to put in an appearance at this inquiry. We will then be glad to hear any further evidence relative to the subject under investigation, that is to say, the cause or causes of the accident, which may be offered, either by individuals or by the parties represented before us; but we limit the evidence strictly to the matter referred to us in the appointment of the Board of Trade. I need say no more at present, except to express—speaking for Mr. Adams

as well as myself—our sympathy with the families of the unfortunate men who lost their lives, and our satisfaction at hearing that the poor people who are injured are progressing favourably towards recovery; we hope they may eventually recover. We think it would be better for us before hearing any evidence at all to view the site of the accident, and we shall have then the whole matter before us and the surroundings of the place. And, therefore, after taking down the names of the gentlemen who appear representing different parties, we will adjourn this Court, and will drive out to the place, and we hope that we may be back at about 3 o'clock and resume the proceedings, perhaps we may be a little later. I should now like to hear the names of those who wish to appear.

(*Mr. Adams.*) Who is for the Company?

(*Mr. Thomas Huggard, Solicitor.*) I appear for the Company.

(*Mr. Adams.*) Of course the Company have a *locus standi.*

(*Mr. T. Harrington, B.L., M.P.*) I appear for the Tralee Town Commissioners, instructed by Mr. Murphy.

(*Mr. Adams.*) Is Tralee included in the guaranteeing area?

(*Mr. Harrington.*) Yes, sir.

(*Mr. Adams.*) Then I consider you have a *locus standi.* Is it the town of Tralee that is guaranteeing?

(*Mr. Harrington.*) The town of Tralee, the Commissioners as sanitary authority, are guaranteeing 6,000*l.*

(*Mr. Adams.*) Interest on that and working expenses.

(*Mr. B. O'Connor Horgan, Solicitor.*) I represent Thomas O'Leary, the guard, and the two Messrs. Murphy, of Cork, jobbers.

(*Mr. Adams.*) People injured?

(*Mr. Horgan.*) Yes, sir.

(*Mr. Huggard.*) I was asked to state that Mr. Charles Morphy, of Tralee, has been instructed to appear for several ratepayers interested in the barony, Lord Ventry, Mr. Hussey, Mr. John McGillicuddy, and others. He is in Killarney at present, but expects to be back by 4 o'clock. He also appears for the representatives of Redshaw, the engineer, who was killed.

(*Mr. Daniel G. O'Reardon, Solicitor.*). I appear for Eugene Slattery and John Power, two of the men injured.

(*Mr. Harrington.*) Before you adjourn, sir, I intend in the course of the inquiry to make an application, and I think I should make the application to you now at an early period. I do not know whether you have the plans and specifications of the line?

(*Major Marindin.*) I have the plans that were sent to the Board of Trade before the inspection of the line, which purported to be, and, no doubt, are copies of the Parliamentary plans, the deposited plans; but we are going to call upon some officer of the Company to produce the original, or copies of the original plans approved.

(*Mr. Adams.*) I believe the deposited plans are in the clerk of the peace's office, and I have intimated to the clerk of the peace to be ready to produce them at any moment; is not that so?

(*Mr. Huggard.*) That is so.

(*Major Marindin.*) We will now adjourn, and drive out and take a view of the place, and I hope we will back here and able to commence the inquiry at 3 o'clock or soon after.

The inquiry was adjourned, and at a quarter to 4 o'clock was resumed.

WILLIAM HENRY MCCOWEN sworn.

1. (*Mr. Adams.*) Are you the secretary of the Tralee and Dingle Light Railway?—Yes.

2. Have you the Order in Council?—Yes (*produced*); this is the only copy I have.

3. What is the date of the Order in Council?—17th September 1888.

4. Was the scheme opposed before the Privy Council?—No.

5. And that order has the force of an Act of Parliament?—Yes, this does away with the Act of Parliament.

6. Are there plans and specifications referred to in that?—Not in this, but in the specification the plans are referred to.

7. Plans and sections?—Yes.

8. Are those plans and sections deposited with the clerk of the peace?—Yes.

9. And those we can have, I suppose?—Yes, sir.

10. Have you examined those plans and sections yourself?—No; Mr. Hickson, the engineer, examined them.

11. This being a scheme under the Tramway Acts, of course it was originally passed by the Kerry Grand Jury?—Yes.

12. At what assizes, do you remember?—(*Mr. Huggard.*) July 1884.

13. (*Mr. Adams.*) The plans and sections were deposited, I presume, with their secretary, according to law, before they passed this scheme?—Oh, certainly.

14. And they had before them, I presume, as the statute requires a report from the Board of Works on the scheme?—Yes.

15. Is that report forthcoming?—We have a copy of it; of course the original had to be sent to the Privy Council.

(*Mr. Huggard.*) The original is lodged with the Privy Council pursuant to the orders under the Tramway Act, and we give you a copy of it.

(*Mr. Adams.*) Have you a certified copy of it?

(*Mr. Huggard.*) No.

(*Mr. Adams.*) What was the copy taken from?

(*Mr. Huggard.*) It was for our own use, from the copy furnished by the Board of Works, which copy had to be transmitted to the Privy Council; it is a copy made in my office from the copy given by the Board of Works.

(*Mr. Adams.*) Have you the copy from the Board of Works?

(*Mr. Huggard.*) No, that is deposited with the Privy Council.

(*Mr. Adams.*) Hand in the copy made in your office, and we will afterwards, if necessary, have it compared with the original.

16. (*To witness.*) Was there also a report on this line from the county surveyor?

(*Mr. Huggard.*) Yes, sir; we have that here too.

(*Mr. Adams.*) Who was the county surveyor then, was it the present gentleman?

(*Mr. Huggard.*) I think not. It was a Mr. Hackett who was here at that time.*

17. (*Mr. Adams.*) As I understand, the grand jury when they passed this line had before them the deposited—or, at least, they had before them, if they thought proper to see them—the deposited plans and sections; is not that so?—Yes.

18. They had also before them the report of the Board of Works' engineer?—Yes.

19. They had also before them the report of their own county surveyor?—Yes.

20. The grand jury having passed the presentment, I presume the case went in due form of law before the Privy Council?—Yes.

21. There was a public hearing before the Privy Council?—There was a public hearing, but no person opposed.

22. Nevertheless there was a public hearing, but the scheme was unopposed?—Yes.

23. And was then passed by the Committee of the Privy Council, and subsequently finally adopted by the Lord-Lieutenant in Council under the Order you have put in?—Yes.

24. It is a guaranteed line?—Yes.

25. Could you state what the guarantees are, how they are distributed?—The guarantee is on 120,000*l.* of the capital.

26. Is that the entire capital of the line?—150,000*l.* is the entire capital; there are 30,000*l.* ordinary shares.

27. Has that 150,000*l.* capital been entirely expended?—Yes.

28. Then 120,000*l.* of that is guaranteed?—Yes.

29. Would you state by what baronies?—Corkaguiney guarantees 60,000*l.*, Clanmaurice 15,000*l.*, Truaghanackmy 39,000*l.*, and the sanitary district of Tralee 6,000*l.*

30. What is the per-centage?—4 per cent.; the Treasury pays half the 4 per cent., it recoups the baronies 2 per cent.

31. Of course the baronies are in the usual way liable for the working expenses of the line in addition to the guarantee?—Yes.

32. Now does the line pay its working expenses?—No, it has not paid its working expenses.

33. What is the total guaranteed interest?—4,800*l.* per annum.

34. What was the deficit in working expenses last year?—The last half year 1,300*l.*, and the half year before was about the same.

35. So, as I understand, at present the baronies are liable to find the 2,400*l.* a year, that is to say, 2 per cent. of the 4 per cent., and about 2,600*l.*, the deficit of the working expenses?—Yes, sir.

36. Do you know what is the taxation on the baronies?—I could not tell you what the taxation is.

37. Now you have already stated that the entire capital of the company has been expended. I suppose that was provided for by the scheme; that there was not—there generally is not—any surplus left for any purpose?—No.

38. That is to say, the capital was fixed at the exact sum which the line would cost?—The capital was fixed, and then the difficulty was to get a contractor to take it up. A contractor at last took it up, and he was handed the scrip for the entire amount.

39. It was a contractor's line, like many of these light railways; he made the line, and got the entire scrip?—Yes.

40. It is important to know that there is no fund, as far as I can see, for structural alterations or anything of that kind?—None whatever.

41. (*Major Marindin.*) Have you anything to do with the working regulations of the line?—No, I have nothing to do with the working.

42. You do not know anything about the regulations that were issued after the line was opened as to the working, the limits of speed, and so on?—Oh, yes.

43. Have you got a copy of those?—These are printed off the Board of Trade copy (*produced*).

44. These are regulations for the working of the line; were these issued to the people who had the working of the line?—These are put up in all the vehicles.

45. Will you look at them, please; under these orders there were limits of speed at certain points on the line, were there not?—Yes.

46. Would you read No. 5?—"The speed at which "such engines and carriages shall be driven or pro- "pelled along the light railway, where it is laid along "the side of the road, shall not exceed the rate of "12 miles an hour; and through any town or village "the rate of 6 miles an hour; and elsewhere, where "the light railway is laid at a greater distance than "30 feet from the centre of any public road, the rate "of 25 miles an hour; and the speed at which such "engines and carriages shall pass through facing "points shall not exceed the rate of 4 miles an hour, "except in the case of those facing points which are "properly interlocked with signals or the engine staff."

47. Then would you read No. 8, please?—"The "speed of the engines and carriages shall not exceed "the rate of 2 miles an hour at the following places:— "(1.) In crossing Edward Street and Nelson Street, "Tralee. (2.) In crossing the road close to Blennerville Station. (3.) In crossing the road at about "17¾ miles from Tralee. Nor 5 miles an hour at "the following places:—(1.) At the oblique crossings "of all roads when approached on the level or on a "falling gradient. (2.) On the sharp curves on each "side of the viaduct at 10 miles 58 chains on the "journeys from Dingle to Tralee."

48. Is that the viaduct where the accident happened?—Yes.

49. Do you know whether those regulations were issued to the drivers and others who work the line?—They are issued in another form to the drivers.

50. Will you put that in?—This (*produced*) is the working time-table.

51. Can you give me anything to show that this was in the hands of all your drivers; have you their receipt for it?—We have not a receipt, but the manager gives it to all the drivers personally; we will have him up.

52. Then as to the construction of the line, you

* This is an error; the county surveyor at that time was Mr. Deane.—F.A.M.

would leave that to the engineer to speak about?—Yes.

53. (*Mr. Harrington.*) To whom were those instructions issued; was it a portion of your duty to issue them to the men in the employment of the company?—No, the manager's.

(*Major Marindin.*) I think, Mr. Harrington, he said he would have the manager up, and he would speak as to whether the regulations were delivered to these men.

54. (*Mr. Horgan.*) Who appointed Redshaw?—The Board of Directors.

55. Who constituted the Board of Directors at the time?—There were nine directors; you wish for the names?

56. Better, I think—Colonel Rowan, chairman.

57. (*Mr. Adams.*) Were those directors when Mr. Redshaw was appointed?—Oh, no.

58. (*Mr. Horgan.*) Only the directors who appointed Redshaw?—I have not the minute book in court.

59. You better have that. Redshaw was not an engine-driver. Before Redshaw was appointed you had a very good man named Graves, I believe?—Well, I cannot answer that question.

60. He gave satisfaction, did he not?—No, he did not.

61. Was he a regular engine-driver?—He was an engine-driver before he came to the company.

62. Redshaw was not an engine-driver?—Well, I do not know; I had nothing to do with that.

63. I am only asking you from your knowledge?—I have no knowledge.

64. Where was Graves an engine-driver before he came here?—On the Kanturk and Newmarket line.

65. And I take it that before he was appointed by you he must have got good letters of recommendation from the Kanturk and Newmarket line?—He had recommendations from Mr. Worthington.

66. Now he was dismissed at any rate?—Yes.

67. How long was he on your line?—I think about 18 months.

68. During that time you had nothing to complain of so far as accidents?—No.

69. Now he was dismissed, unfortunately?—Yes.

70. By whom now on your oath?—The directors.

71. Upon your oath was it not by the manager, Mr. Parkes?—No.

72. Was it not at his instance?—No, it was not.

73. Do you know who the directors were who had him dismissed?

(*Mr. Adams.*) Now, I beg your pardon, this is an entirely different thing from an inquiry about Mr. Redshaw, Graves was not there at the time, and it is not fair to the man himself to go into this. If you have any evidence to offer either by cross-examination or direct examination, as to the competency of the man who drove the engine, in my opinion that would be entirely relevant.

74. (*Mr. Horgan.*) Very well, sir. At any rate Redshaw was not an engine-driver at all?—I cannot say that.

75. Was he in the habit at all of driving engines?

76. (*Mr. Adams.*) Do you know anything about him?—No.

77. (*Mr. Horgan.*) Is there any officer of the company who appointed him?—He was appointed by the directors.

78. Was it on the recommendation of the manager?—No, he had a recommendation from the Great Northern Company of Ireland.

79. Is there a director who can tell us why they appointed him?—Yes.

(*Mr. Adams.*) Then there is no use in asking further.

80. (*Mr. Horgan.*) The nine directors by whom were they appointed?—Six by the shareholders and three by the baronies.

81. Who were the shareholders; have you a list of them here?—I have not the list in court.

(*Major Marindin.*) We are getting a little beyond I think, an inquiry into the causes of this accident.

(*Mr. Horgan*). I am quite satisfied to keep within any limit you put on me.

(*Mr. Adams.*) What we are here for is to inquire into the cause of the accident at Camp, if there is any complaint about the formation of the company or the constitution of the directors that may be the subject of another inquiry. But you are at the fullest liberty to ask anything bearing on the accident at Camp, and the matter you were on first, the appointment of this man and his competency, I think you are fully at liberty to go into.

82. (*Mr. Horgan.*) Now I see that you have got that minute book?—Yes.

83. Who were the directors that appointed Redshaw?—Colonel Rowan, Mr. Arthur Blennerhasset, Mr. Michael McMahon, Mr. David Watson, and Mr. George Collier.

84. Neither of these had any experience whatever of railway business of any sort, am I right in saying it, except Colonel Rowan?—I cannot say that.

(*Mr. Horgan.*) It is a matter of public notoriety.

(*Major Marindin.*) We cannot have public notoriety, you must put your questions to the witness, please.

85. (*Mr. Horgan.*) As far as your knowledge goes, had any of them any experience of railway business?—Only since they came on this board.

86. On whose recommendation was Redshaw appointed?—I think it was on the recommendation of the Great Northern Railway of Ireland.

87. You have not the recommendation or a copy of it?—I think Mr. Parkes has.

(*Mr. Horgan.*) I will ask for that.

(*Major Marindin.*) Can you put that in Colonel Rowan?

(*Colonel Rowan.*) No, Mr. Parkes, the manager, will.

(*Major Marindin.*) When he is called we will ask him for it.

88. (*Mr. Horgan.*) How long was Mr. Redshaw before his decease engaged as an officer of the line?—Since October last.

89. During that time were there any complaints of him?—I never heard any.

90. It was only on occasion that he would drive the engine?—Oh, yes, only occasionally.

91. And I believe the reason he drove the engine on this day was because there was nobody else to do it?—The spare driver was ill.

92. And if you had a proper engine-driver you certainly would not have employed Redshaw?—I daresay that is so.

(*Major Marindin.*) I think we better wait for the manager; is it not the secretary's duty, as I understand, to interfere with the management and working of the line, that is in the hands of the manager and engineer of the line. I think you had better leave that subject.

93. (*Mr. Horgan.*) Now this gradient at Camp, I believe it is the largest gradient in the United Kingdom.

(*Major Marindin.*) I think, please, leave that to the engineer, it is a matter that does not affect the secretary.

94. (*Mr. Horgan.*) How much have you paid altogether, since the line was opened, for accidents on the line, killing cattle and otherwise?—I could not tell you without referring to the books.

95. Am I right in saying that the assizes and sessions since the line opened were largely taken up by processes and litigation of that sort?

(*Mr. Adams.*) You know we are only inquiring into the Camp accident, all those are matters of local history.

96. (*Mr. Horgan.*) Now, I believe, you have O'Leary on the line since it opened as guard?—Yes.

97. And you had no reason to complain of him whatever?—Not that I know of.

98. (*Mr. Adams.*) I beg you pardon for a moment. Mr. McCowen, what was your function in this

company, did you do anything but keep the books and do clerical work?—The accounts and the clerical work, and the money part; I had nothing to do with the management.

(*Mr. Adams.*) Now all these question, I do not mean to say they are irrelevant, but such questions as to the gradients and the driver should be kept for the proper person.

(*Mr. Horgan.*) Very well, sir, I am perfectly in your hands, anything you suggest to me.

99. (*Mr. Harrington.*) I am not sure whether you took down the figures exactly as to the losses for the year?—It would be about 2,600*l.*

Mr. S. Huggard, Clerk of the Peace, produced the deposited plans.

RICHARD ATKINS PARKES sworn.

100. (*Major Marindin.*) You are the manager of the line?—Yes, sir.

101. How long have you been manager?—Since the August previous to the opening.

102. You are responsible for the working of the line?—In so far as the traffic department goes.

103. Can you tell me who was in charge of the locomotive department?—The late Mr. Redshaw.

104. What was he?—He was locomotive foreman, and emergency engine-driver.

105. Was he a fitter?—Yes.

106. Where did he come from?—He came to us from Dundalk, the Great Northern Railway.

107. Do you know whether he was a passed driver?—I understood from him that he was in the habit of driving where he came from, but when he came to me he showed a thorough knowledge of engine driving.

108. That is from your own experience?—Yes.

109. But do you know whether he was a passed driver of the Great Northern Company?—I do not.

110. Do you know that he was not?—I do not know that he was not.

111. You do not know anything about it?—I know that I asked him when he came to us, because our directors appointed him as emergency engine-driver, I asked him what his experience of driving was, he said that he had driven engines, but not from station to station, but about their premises repeatedly for a number of years.

112. Have you been on any other railway but this?—Oh, yes.

113. Do you know that there are drivers who are passed as drivers?—Not necessarily.

114. Not always?—Not always.

115. And you do not know whether Redshaw was passed or not?—I cannot say.

116. Do you know whether he had ever served as fireman?—I cannot say.

117. Did you take any steps to find out?—No.

118. So that Redshaw was an emergency driver used occasionally. How often had he driven between Dingle and Tralee?—He had driven to my knowledge three times, I mean to say officially.

119. And do you know whether he was in possession of the regulations with regard to the speed of the trains, and so on, in different parts of the line?—Yes.

120. How do you know?—I supplied them to him myself.

121. I need hardly ask you was he a man that you were satisfied with in his character?—Perfectly satisfied. I had the best testimonials from his previous employment.

122. As a driver or as a fitter?—As a fitter.

123. (*Mr. Adams.*) Have you got those?—No; Mr. Morphy had them last time.

(*Mr. Huggard.*) They will be forthcoming, sir.

124. (*Major Marindin.*) How long had he been in the service?—Since last October.

125. As to the fireman he also was killed, I understand?—He was.

126. What was his name?—Richard Dillon. Well, regarding Mr. Redshaw, I say that he had driven from Dingle to Tralee three times, but he had driven about 27 times to the lower portion of the line to Castlegregory, and he had been with myself, I should say, nearly 30 times over the system, during which he was not actually in charge of the engine but used to drive, and I have seen him use the automatic vacuum brake, and he understood it thoroughly also, because he used to keep the same in order himself.

127. Are you a driver yourself, are you competent to drive an engine yourself?—I think so.

128. Now as to the fireman, Dillon, how long had he been in the service?—Not much more than a month; he was recommended by the district locomotive superintendent of the Great Southern and Western Railway at Cork, Mr. Smith.

129. Do you know whether he was a passed fireman on that system?—No; he was a steam raiser and occasional fireman.

130. Had he passed for a fireman, do you know?—I do not know what you mean by "passed for a fireman;" do you mean passed an examination; he was perfectly competent to fire on any railway.

131. How do you know?—I have Mr. Smith's word for it.

132. Mr. Smith told you so?—Yes.

133. Had you a personal interview with Mr. Smith, or was it by letter?—A personal interview with him.

134. Was he also acquainted with the working of the vacuum brake?—He was.

135. What is the rule on your line as to the amount of vacuum they must maintain?—The rule is that they are not to start with less than 18 inches.

136. What is your rule as to keeping your vacuum up, that is, the use of your small ejector?—That if the small ejector is not sufficient to keep the vacuum up they use the large ejector.

137. That is not answering my question, what is your rule as regards the constant use of the small ejector?—There is no rule.

138. Is it in accordance with your rules to run with your small ejector shut off?—Oh, no, that is directly against rule. Our rule is we keep the vacuum handle in running position, by which means the small ejector is continually working, and it is directly against the rule.

139. That is what I want to get at; can you quote your rule which forbids the running with the small ejector shut off?—Well, I had no rule actually to that point, but it is a well-known fact you might as well make a rule for all the working parts of the engine as for that particular part.

140. Oh, dear no! Not at all?—The only rule I had with regard to the vacuum brake was that before starting the guard must see that his register is 18 inches at least, and I have never before known an instance of a driver attempting to run with his vacuum shut off his train.

141. You have no actual rule in your rules book forbidding a driver to run with his small ejector shut off?—No.

142. You know what the effect of running with his small ejector shut off would be?—I do.

143. What would be the result?—If you shut off the small ejector, provided you have a vacuum previously, your brake goes on even if it gets exhausted.

144. You are quite wrong; that is what it does not do?—Do you mean if you shut steam off from the small ejector you have no vacuum at all?

145. Is it not a fact that if you leave your small ejector shut off for a certain time that your brake power leaks away, and you are left with your brake dead?—Quite so.

146. If you cut off the whole of the vacuum suddenly by the breaking of the coupling or opening a

valve either in the guard's van or on the engine your brake would go on, but if you let it leak itself gradually away you are dead ?—Quite so.

147. That depends of course upon the state of your couplings and connexions all through ?—Yes.

148. If they are tight it will take a longer time to leak off, and if they are slack it will leak off quicker ?—Oh, of course.

149. How long would it take for a brake to become inoperative ?—With the brake they had that day, if he had the proper pressure of steam before starting down the hill, and 18 inches were registered, I should say that that brake should have blocked his wheels and kept on for more than hour.

150. That is not my question. Can you tell me how long it would take for a brake to become absolutely useless if you did not keep the small ejector running ? We will take it that a man is running up a hill and suddenly leaves the small ejector shut off, can you tell me how long it would take before the whole of his stored-up energy would leak away ?—It would depend on the amount of your leakage and the length of your train ; I could not tell you exactly, but with the train that he had I should say that the brake should not have gone off within an hour.

151. Oh ! You think within an hour, very well. Do you know, as a matter of fact, whether it was a habit at all on your line for the small ejector to be shut off when the train was running ?—It is a matter that never came within my observation, nor would not be permitted for a moment if it had.

152. (*Mr. Huggard.*) How many years were you in the employment of the Great Southern and Western Railway before you came to the Dingle Company ?—I was over 25.

153. Did you, during that time, sometimes have to drive engines yourself ?—Not officially, but I have very often driven engines on the Great Southern.

154. Did you during the strike act as engine-driver ?—I did at one time.

155. Do you know whether Redshaw served any apprenticeship as a locomotive engineer or foreman under the Great Northern Railway Company ?—Yes ; he served five years as well as I understand.

(*Major Marindin.*) That is as a fitter.

156. (*Mr. Huggard.*) As a fitter and locomotive operator generally. Now on the Great Southern system, during the time that you knew it, was there any rule, or practice, or custom that men had to pass an examination for the position of driver ?—None whatsoever, except their general competency was observed.

157. What was the practice as to the training up of a man before he became driver ?—Well, the cleaner boys in the shed after a certain time were made steam raisers, and later on made firemen, and those when they showed competency would be made drivers.

158. They began by being steam raisers, then firemen, and then drivers ?—Yes.

159. There was no examination at all ?—No ; I do not think so.

160. And, so far as you observed, was Redshaw about 50 times altogether over that line driving, not officially, I mean ?—I should say he was more than 50 times driving over the line, not officially, but on the engine with the drivers.

161. Would you say he was a very competent driver ?—I would say he was a most competent driver.

162. Have you seen the wheels of the engine since the accident ?—Yes.

163. Is there a sign on it of what they call skidding ?—Yes.

164. That is running on the rails withot revolving ?—Quite so.

165. Would you judge from that that the vacuum did, as a matter of fact, work ?—Undoubtedly.

166. (*Mr. Harrington,*) You think that the fact of the wheels showing signs of skidding shows that the vacuum brake was working ?—There might be another cause ; the wheels could skid if the engine were reversed.

167. That is precisely the opposite of what you said to Mr. Huggard ?—It is not the opposite.

168. Can you tell me of your own knowledge, any occasion or date on which Redshaw drove an engine down that steep before ?—Yes, the previous month ; the same special, about the very same time.

169. Who was the guard who was with him on that occasion ?—I think the same guard.

170. Show me the book of regulations ; does it correspond with the instruction ?—It does, of course, except with a few additions of my own.

171. Just open it where the regulation as to speed is set forth. Do you notice any material difference, from the point of giving instructions to men between the manner in which instructions are set forth in your book, and in this sheet. Regulation 8 says, "Nor " 5 miles an hour at the following places :—At the " oblique crossings of all roads when approached on " the level or on a falling gradient" ? On page 9, I have it, " At all oblique crossings of all roads the speed " must not exceed 5 miles an hour. On the sharp " curves on each side of the viaduct at 10 miles 58 " chains, not to exceed 5 miles an hour," that is Curraduff Bridge, "in crossing Lispole Bridge, 10 miles an hour."

172. (*Major Marindin.*) In point of fact these instructions exceed the order ?—They do, sir.

173. (*Mr. Harrington.*) What I was drawing attention to is that it does not specify the places with the same accuracy as the instructions, that a man has rather to find out the places. They are altered in the form in which they are put, and the places not so well indicated ?—Those were also furnished to the officials.

174. Did you yourself deliver any copy of this to Redshaw ?—Yes.

175. You cannot recollect the date ?—I cannot, but I certainly gave him a copy of this. I gave him half a dozen copies, and told him it would be well one was pasted on each engine.

176. Were you at the inquest ?—I was.

177. Did you hear the evidence of Graves at the inquest ?—Yes.

178. Did you hear him swear he never got a copy of it ?—Yes, but I have a witness here to prove he did.

179. You heard him swear it at all events ?—Yes.

180. Redshaw was not ordinarily charged with the driving of the engine, could you tell me whether on any occasion on which he was specially charged to drive the engine his attention was drawn to these instructions, that was not his ordinary business ?—It was part of his ordinary business.

181. The driving of an engine ?—Quite so.

182. He was not engaged for that purpose ?—He was engaged for that purpose ; he was engaged, I said, as locomotive foreman and emergency engine-driver.

183. Can you charge your memory with any occasion on which he was entrusted with the sole charge of an engine that his attention was drawn to these instructions ?—When he came to us first the very first thing I did was I gave him a copy of these regulations, and a copy of this in my hand, a company's rule book.

184. How long was he in your employment ?—Since early last October.

185. Do you think he knew the district ?—Quite well.

186. I think you said he was three times officially on that journey ?—Three times officially driver.

187. And you think he knew the landmarks sufficiently well to follow these instructions ?—Quite well.

188. He was a stranger to the county ?—He was no stranger to the Dingle system, he was over it nearly four times a week since he came to it.

189. In Dingle itself ?—Yes.

190. (*Mr. Adams.*) Used he to go down in the train to Dingle ?—No, on the engine.

191. (*Mr. Harrington.*) You speak of your experience on the Great Southern and Western Railway, that experience was confined altogether to Tralee, and in connexion with it?—It was not. I have been in charge of every station from Tralee to the Limerick Junction on the Great Southern system, including the branches.

192. As station-master?—As relieving station master. I have been in charge of all the stations on the Tullow and Baltinglass branch, and repeatedly in Dublin.

193. When you speak of a man not being subject to any examination for the position of engine-driver, do you mean to say that of your knowledge? Suppose it was the practice, could it have been the practice without your knowledge; did you come in contact with that part of the work?—It may have been the practice without my knowledge.

194. (*Mr. Horgan.*) Who appointed you?—To where?

195. To this station?—What station?

196. Tralee?—The directors of the Tralee and Dingle Railway Company.

197. There were no directors until the line was taken over?—Well, that is a matter I have nothing to say to.

198. You will have to say to it, with the greatest possible respect. You were appointed by nobody then belonging to this line?—I was appointed for the preliminary work of getting the line in order.

199. By whom?—I got my appointment from their secretary at the time, Mr. Fitzgerald.

200. What secretary?—The secretary of the Dingle Railway Company.

201. There was no Dingle Railway Company in existence until it was taken over, you were appointed in August?—Quite so.

202. The line was not taken over from the contractor then, is not that so?—It is, undoubtedly.

203. You were, therefore, appointed before the line was taken over from the contractor?—Yes.

204. Therefore you were appointed by nobody but the contractor?

205. (*Mr. Adams.*) I beg your pardon, now surely the company was in existence when the line was given over to the contractor, and remained in existence, and the directors were there, is not that so?—Yes.

206. Simply because the company in the usual course handed over the construction of the line to the contractor, that did not in any way suspend the powers of the directors?—Mr. Horgan is under the impression that it sprang into existence the day of the opening.

207. Were you not appointed long after the date of passing of the Order in Council?—I was.

208. (*Mr. Horgan.*) When was the railway taken over at any rate, because you had no baronial directors then?—Certainly.

209. When was the railway taken over?—Why did you not ask the secretary about that?

(*Mr. Adams.*) Oh, answer the question, please.

(*Witness.*) The date of the opening was 31st March 1891. I was appointed in August of 1890.

210. (*Mr. Horgan.*) Then the baronies had no more control over your appointment than the man in the moon?

(*Major Marindin.*) Mr. Parkes was appointed by the Board of Directors as it then existed. After the openings of the line under the order there were fresh directors added for the baronies.

(*Mr. Horgan.*) Quite so, but the manager of this line was appointed without a single particle of voice on the part of the baronies.

(*Mr. Adams.*) Surely you did not expect that they would open the line and then appoint a manager.

211. (*To witness.*) Did the baronial directors when they came on in any way object to your continuing as manager?—No.

(*Mr. Huggard.*) As a matter of fact they were appointed before that date.

(*Mr. Adams.*) So I thought. The baronial directors were appointed long before the opening of the line, were they not?

(*Mr. Huggard.*) They were appointed at the Presentment Sessions of May 1890.

(*Mr. Adams.*) What has happened is this, the board properly constituted appointed a manager before the opening of the line; it would be ridiculous to appoint him afterwards, then we are told that other gentlemen were appointed directors, they in no way objected to the appointment, and we must regard that matter as closed.

(*Mr. Huggard.*) Mr. Watson, Mr. Hussey, and Capt. De Moleyns were all baronial directors, and all three were present at the meeting at which Mr. Parkes was appointed.

(*Mr. McCowen.*) That was 2nd August 1890.

(*Mr. Adams.*) We must go into this for the purpose of closing this matter once for all. [*Reading from minutes.*] "A meeting of the directors of the "company was held, in the offices of the company, "25, Denny Street, Tralee, on the 2nd August 1890, "Colonel Rowan in the chair. A. McCowen, S. M. "Hussey." Was he a baronial director?

(*Mr. Huggard.*) Yes.

(*Mr. Adams.*) "A. Blennerhasset, J. M. Watson, J. W. Busteed, and Hon. E. De Moleyns." Was he a baronial director?

(*Mr. Huggard.*) He was, and Mr. Watson.

(*Mr. Horgan.*) I say they were not then.

(*Mr. Adams.*) Now that inquiry is absolutely closed on that point.

(*Major Marindin.*) It really does not matter. Mr. Parkes was appointed by people who had power to appoint him; and he remained in office, and we must take him as the manager of the line.

212. (*Mr. Horgan.*) You had nothing to do with the Great Southern Railway here except as bookkeeper until you left Tralee station, is not that so?—It is not so.

213. What were you at in Tralee under your father?—I am not speaking of Tralee.

214. You had nothing whatever to do with railway management except in the booking office until you left Tralee?—I had not.

215. How long were you in the booking office in Tralee?—Upwards of 20 years.

216. Then you had nothing to do with railway management except in the booking office for that period?—Quite so.

217. When did you leave Tralee?—I could not exactly say.

218. Come now, that is a matter you ought to remember?—I should say about seven or eight years ago.

219. Where did you go to then?—I went to Tullow.

220. On the Great Southern and Western line?—Yes.

221. What were you there?—I was managing the station at Tullow.

222. You were not the station-master?—Yes, I was.

223. How long did you remain station-master?—About two years.

224. Where did you go to then?—I was then promoted to a place called Clare.

225. At any rate, had you any control of the engines or anything else except as manager?—I used to arrange the great Banagher Fair, arrange all the specials for Banagher Fair from that place, which was a large junction.

226. Very well then, of late years you say you are connected with the management of the Great Southern and Western Railway; where did you come from here?—From there to here.

227. (*Mr. Adams.*) You say you had to arrange for the Banagher Fair; that is one of the greatest fairs in Ireland?—Yes, lasts some five or six days.

228. (*Major Marindin.*) You learned your knowledge of traffic management in those eight years as

station master under the Great Southern?—That is so.

229. (*Mr. Horgan.*) You were never actually taught it, except from the experience you have had?—Yes.

(*Major Marindin.*) It is very usual in small lines for people who have been trained as station-masters to come forward as traffic inspectors and traffic managers.

230. (*Mr. Horgan.*) You had this man Graves dismissed, who drove this engine for a year and a half without accident?—

(*Mr. Adams.*) We can have no inquiry as to Graves, for, observe, it will raise an absolutely irrelevant issue, if he was the best or the worse driver; we must start with the appointment of Redshaw.

231. (*Mr. Horgan.*) Have you the testimonials of Redshaw?—I think Mr. Morphy has them.

232. Let us have them; they belong to the company?—Mr. Morphy had them at the inquest, and I did not get them since.

233. (*Major Marindin.*) Try and find them by to-morrow.

(*Witness.*) I expect I will have them for you by to-morrow.

234. (*Mr. Adams.*) Did Mr. Morphy take away the papers?—He took away all the papers he had.

(*Mr. Huggard.*) He did not give me back his brief, but I can telegraph to him for it.

235. (*Mr. Horgan.*) Redshaw, you say, was engaged in Dundalk before he came here?—So I heard.

236. Have you not authenticity for it, or certainty?—Oh, yes.

237. Not as an enginer?—As a fitter.

238. How long was he in Dundalk?—I cannot exactly say, but he was with that company for about five years.

239. How long was he in the Great Northern then?—That is the Great Northern.

240. That was the only testimonial you got with him?—That was all.

241. Am I right in saying that the directors who appointed Redshaw had no railway experience whatever?—I cannot tell you that.

242. The five directors were Col. Rowan, Mr. Blennerhasset, Michael McMahon, Mr. Watson, and Mr. Collier. They had no experience whatever of railway management?—I cannot tell you.

(*Mr. Adams.*) For good or ill we have this fact; Redshaw was appointed upon the faith of a certificate, which we will have in due course, from the Great Northern Railway; it is for us to judge afterwards whether or not that was a proper appointment to make; but kindly pass now to something else.

243. (*Mr. Horgan.*) Now on the occasion of this catastrophe I believe he was an emergency engine-driver?—Yes.

244. And he was not in the habit of driving the engine to Dingle at all?

(*Major Marindin.*) He has said that.

(*Mr. Adams.*) I think he stated very fully and more than once all the experience Redshaw had.

245. (*Mr. O'Reardan.*) Was it as an engine-driver you employed Redshaw?—As locomotive foreman and emergency engine-driver.

246 Did you advertise? Show me the advertisement?—The advertisement, as well as I remember, was for a locomotive foreman.

247. That was in connexion with certain repairing sheds you were getting up at the station in Tralee?—Yes.

248. Was it not as superintendent fitter?—A great many of the superintendent fitters are also engine-drivers; it was also the same with his two predecessors.

249. It was as a fitter, principally in connexion with these repairing sheds that you got Redshaw?—Partly.

250. Now coming back to the vacuum, there is a rule in your line that an engine cannot start on this incline under 18 inches of a vacuum?—Yes.

251. If a train started with 17 inches of a vacuum——

252. (*Major Marindin.*) We have not had that in evidence yet, as to how much vacuum they had or had not; you can get that presently. Can you give me a list of the stations or stopping places on your line?—Yes.

253. And the distances apart?—I can give you the exact time-table of that train; it was a cattle train; it was not a special.

254. Have you calculated whether a driver who attends to the instructions as to limits of speed at the different points of the journey can do the journey in the time you allow him?—Yes, that time is calculated on the portions of the line that is enclosed off the road on which you can attain a certain speed, and on the speed on the roads, and taking the inclines into consideration.

255. But what I mean is this: if a driver attends to your regulations as to limits of speed at all points of the line, can he keep that time-table with his engine in proper order?—He can.

256. One thing about Renshaw as a fitter; I take it as far as the use of the continuous brake goes he probably knew more about it than an ordinary driver would?—He knew more about it.

257. It was his duty to look after the parts?—Yes.

258. And see that these continuous brakes were in good order?—Quite so.

259. Have you a report on that engine as to its condition from anybody?—Mr. Redshaw used to keep a book in which the repairs to that engine were recorded.

260. Can you give me the repairs to that engine when it was last in the shops?—I can.

261. You had better get an extract made that will show the last time the engine was in the shops.

(*Mr. Huggard.*) We will produce two fitters who had this engine in the shops.

262. (*Mr. Harrington.*) There is one question, sir, I should ask. The last of these regulations says:—"The company shall place, and keep placed in a "conspicuous position inside of each carriage in use "on the light railways a printed copy of these regu-"lations"?—That is done.

263. Are they on any carriages on the line now?—They are, every carriage.

264. (*Mr. Huggard.*) Who had ordinarily the control of the drivers who told off the different drivers to go out each morning?—Mr. Redshaw did.

265. And he was the head driver?

(*Major Marindin.*) No, he was in charge of the drivers.

266. (*Mr. Huggard.*) And he sent himself out this day, it was not by your orders?—Quite so; he came to me himself and told me two of the drivers were under the influence of drink two or three days before; he went out to Castlegregory and found one helplessly drunk, and the other man under the influence of drink, he dismissed one and reduced the other. Then coming back word had arrived by train that the only man we had available had got an attack of English cholera, and therefore we had no man to send; poor Redshaw saw there was no persons to go, and went himself, as he often did before.

267. (*Major Marindin.*) Did you not instruct him to go?—Oh, no.

268. (*Mr. Harrington.*) I understood you to say that he had gone that same journey the preceding month; did all this chapter of accidents contribute to make up the same state of things?—No, he went the preceding month from choice.

(*Mr. Morphy.*) I appeared before the coroner for the next-of-kin. I was not here at the opening part of the inquiry, but I understand the memory of this unfortunate driver has been libelled all round.

(*Major Marindin.*) I do not think so, but a question seems to have arisen that Redshaw was not a competent driver. Mr. Parkes has given his evidence in a very straightforward way, and said he considers he was a competent driver, and is going to produce to-morrow the certificates under which he was ap-

pointed as locomotive foreman, in charge of the shops, and to act as emergency driver.

(*Mr. Adams.*) You were entirely misinformed if you think any man libelled him, the only questions asked pointed to the efficiency or inefficiency of Redshaw, that is entirely within the scope of our inquiry, and any information on the subject would be courted by us.

269. (*Mr. Morphy.*) With regard to that last answer I think you must admit that on this day Redshaw went out with your knowledge?—Undoubtedly.

270. Because I understood you to say he went out of his own motion, and not, practically, by your authority at all?—Oh, no; he did not require my authority to go, but he went out with my knowledge.

271. If he had not gone out would you not have told him to go?—I possibly would have gone out myself.

272. Would you not have told him to go?—I would not; I might have suspended the special.

(*Mr. Morphy.*) This may become material, whether this man went out as a volunteer or by orders.

(*Major Marindin.*) He was in the position of a locomotive superintendent, who was entirely responsible for the drivers who go out, the traffic manager had nothing to do with it.

(*Mr. Adams.*) Redshaw was a man believed by his employers to be perfectly competent. On this day it was necessary someone should go out, everyone else had failed, and Redshaw went out, in my opinion, with the sanction and by the authority of his employers; it was his duty to go.

273. (*Mr. Horgan.*) Do you know that some of your fitters refused to go with Redshaw as firemen?—I do not know any such thing.

274. Did you hear it?—Never.

275. Not on this occasion, but on other occasions?—On any occasion.

GEORGE A. HICKSON, C.E., sworn.

276. (*Major Marindin.*) You are the engineer of the line, are you not?—Yes, sir.

277. How long have you been engineer to the line?—Since the promotion, and since the opening of the line. The promotion took place in 1884, the line was passed in 1884. I was associated with Mr. Ryan in Dublin, who has not been connected with the line since the opening for traffic, I have been in sole charge of the line since the opening for traffic.

278. Can you inform me of the manner in which the line was constructed, have you the specification that was handed to the contractor?—I can show you the specification that was agreed on with the contractor.

279. Can you say of your own knowledge that the line was made in accordance with that specification?—Yes.

280. In all respects?—Yes.

281. You are well acquainted, no doubt, with the deposited plans and sections?—Yes, I prepared them.

282. And with the curves and gradients upon them?—Yes.

283. Can you tell me whether the line was made in accordance with those curves and gradients?—In a great many cases the curves and gradients were improved from the preliminary plans; in fact there was a second Order in Council got for the deviations from the original plans for the purpose of improving the line coming into Tralee, and in two or three other places out along the road, those were all reported on by the county surveyor at that time, and he reported before the Grand Jury that those were a great improvement to the line.

284. Those deviations formed the subject of a second order?—Yes.

285. And they practically became, like an ordinary deviation in a Parliamentary plan, the authorised line?—Yes.

286. And the line was made in accordance with those deviations?—Yes.

287. (*Mr. Adams.*) Were the deviations reported on by the Board of Works also?

(*Mr. Huggard.*) They were.

288. (*Major Marindin.*) As a matter of fact, were there any deviations at this particular place, Camp?—No.

289. So it does not matter so much about the rest of the line. Can you say that in no place was there anything worse as the line was made, any worse gradients or curves?—Oh, no.

290. What was the authorised curve at this particular place?—I would like to show you a clause in the specification.

291. First of all what was the authorised curve in the deposited plans?—Three chain radius. Under the paragraph the contractor was entitled to lay the line anywhere within the limits of deviation.

292. "The contractor has the power to place the "centre line anywhere within the limits of deviation "shown on the plan, provided that in so doing he is "to introduce no curve of less than 3 chain radius," and the plans are to be submitted to the Board of Trade. Were they ever submitted to the Board of Trade?—They were deposited with the Board of Trade.

(*Mr. Huggard.*) They were in this way that the Tramways Act required where tidal waters were affected that the plans should go in, and in this case they did go in to the Admiralty Department.

293. The Privy Council do sometimes transmit these plans to the Board of Trade for observation, in this case I am told they never came near the Board of Trade until the line was submitted for inspection. Under the specification the contractor was forbidden to lay anything under 3 chains, and that was attended to?—Yes.

294. Since this accident have you made an accurate survey of that part of the line where it happened?—I have examined the line there very carefully.

295. Did you take the actual gradients from a point a quarter or half a mile above Camp; can you tell me what they are?—I took levels from the village down to the Junction. From the village I found a gradient of 1 in 35, or a fraction over 35, then 1 in 80, then 1 in 100 across the bridge.

296. You are getting below the bridge now?—I am just past the bridge.

297. We do not want that particularly. What is the approach to the bridge?—One in 80.

298. What does the deposited plan show?—One in 30, I think.

299. One in 100 comes in somewhere?—That is on the contract plan.

300. And you have given the actual plan?—One in 30, and then horizontal over the bridge.

301. Can you tell me the curves?—There is a straight portion approaching the bridge, 400 feet long.

302. You come off a right-handed curve on to the straight?—And then a left-handed curve.

303. Then you have 400 feet straight?—Yes.

304. And then you have a left-handed curve?—Yes, of 200 feet radius.

305. Laid out round the bridge?—The bridge is laid out on the curve.

306. That is what it is to-day?—On examination of the line I find it varies a little bit, not quite regular, that might have been from pulling and lifting since the accident.

307. That will require adjustment?—Yes.

(*Mr. Harrington.*) That is, the curve is not quite regular.

308. (*Major Marindin.*) Yes, I measured it myself.

(*Witness.*) You see our permanent way inspector

was killed in the accident, and a ganger cannot do that exactly right.

309. Have you had much experience in watching the running of the line?—I have travelled a great deal over the line. I am living on the company, but I have nothing to say to the line beyond looking after the permanent way.

310. Then you have on more than one occasion travelled down that incline towards that bridge?—Oh, often, and frequently on the engine.

311. What has been your experience with regard to the speed?—Well, coming down that incline I have always found that engine-drivers are able to control their trains, coming at a uniform speed, and I do not think, except on very few occasions, it exceeded 10 to 12 miles an hour.

312. That would be the limit when alongside a road?—It would be rather faster, but of course a train could be checked.

313. (*Mr. Adams.*) Rather fast, where?—Six miles an hour is the regulation going half-way down the hill.

314. (*Major Marindin.*) That will be in the Act, will it not?—I think so.

315. (*Mr. Adams.*) Do you mean to say they go twice as fast as the limit of the Act?—No; I say I have on some occasions come down there rather faster than the regulation speed.

316. (*Major Marindin.*) But not habitually?—Oh, no.

317. Have you found that when they get to the bottom of the hill they observe that limit of speed of five miles an hour round that curve over the bridge?—Nearly always. In fact the rule is, always coming down to the village they have to be very careful coming through a bunch of houses, and for that reason they check their speed coming to the village, and then they have their train in perfect control coming to the bridge, and can cross it at any speed.

318. Do you think the limits of speed being observed is it safe for your engine to go round a three chain curve?—Perfectly safe.

319. Do you know other narrow gauge railways?—I have been on several in Ireland.

320. Do you know whether there are on other railways curves as sharp?—I do not think there are curves so sharp as three chains, but I know there are gradients much steeper on the Clogher Valley Railway. I laid out portions of that myself. There are a number of railways with steeper gradients and as sharp curves.

321. Can you tell me the steepest gradient you know?—All I know of is 1 in 30. My partner, Mr. Ryan, has told me of gradients in America of 1 in 25.

322. Have you been on the engine yourself, both going up the hill and coming down down the hill to Camp?—Yes.

323. Can you tell me whether it is the habit of the driver, in order to save steam coming up the incline, to shut off his small ejector?—No, I think when the vacuum is connected they always leave the small ejector on.

324. When the vacuum is connected?—Yes.

325. Always?—Yes.

326. When is the vacuum unconnected; have you ever come up on a train with the vacuum disconnected?—I have not. The only time I know of is on this occasion, when the evidence showed the vacuum was not connected.

327. We will deal with that afterwards; but you do not know any occasion when a driver coming up the incline cut off his brake altogether, or has run up the incline with the small ejector shut off?—No.

328. Have you noticed what is the habit of the driver coming down; does he apply his brake at the top, or does he let it run pretty fast round that first part after leaving the top of the incline?—No, drivers I came down with came down very steady all the way; an equal speed all the time, but applied the vacuum brake intermittently, when they found the train going a little put it on, released it, and put it on again.

329. But you have never known any difficulty in keeping the train under control?—No; I have applied the hand brake myself when the driver was applying the vacuum.

330. In addition to the vacuum brake, which I believe is on every vehicle, in addition to that there is a hand brake?—There is a very strong hand brake on the engine, and there is a hand brake on the guard's van; it is not heavy, it is only a light waggon converted into a guard's van with a vacuum gauge.

331. Can you give me the weight of the train?—Yes, Mr. Parkes can give you that.

332. Will you put in returns, Mr. Parkes, to-morrow, showing me the weights of each of the vehicles, the weights, tare, and as they were loaded?

(*Mr. Parkes.*) Yes.

333. Now the engine, there are eight wheels?—Six wheels coupled and a bogie.

334. There are brake blocks on the six wheels, but not on the bogie?—Yes.

335. How many wheels on the carriages?—A double bogie at each end.

336. How many wheels are braked?—All.

337. Therefore every wheel of the train is braked except the small bogie wheels on the engine?—Yes.

338. As to the maintenance of the line, how many gangs have you?—Eight gangs, three men and a ganger in each.

339. And an average length of what?—From three to four miles.

340. Of single line?—Yes.

341. When did you last examine the line at this particular part?—I have been out there three times since the accident.

342. But before the accident, of course, your ganger has to walk the length every day?—He has to walk a part of the line every day, not his whole length, he could not walk 31 miles.

343. I am talking of the ganger?—Oh, the ganger is supposed to walk his three miles every morning and evening. On the 16th and 17th May I went to Dingle, and came back the following day.

344. Was the line in good order at that time?—All in good order.

345. Can you tell me, going round this curve, was the gauge pretty even?—It is pretty even, from three-quarters of an inch to an inch of slack going round the sharp curve.

346. Can you tell me what the super-elevation is?—From $4\frac{3}{4}$ to 5 inches.

347. Is the curve checked?—Yes, there is a check rail the whole length of the curve.

348. What is the interval of the check rail?—$2\frac{3}{4}$ inches between the running rail and the check.

349. Did you notice that the check is very much worn?—There is just a sign of the flange touching it, showing that it is checking well, it is not worn.

350. Have you examined the rolling stock since the accident?—I was out the next morning at 7 o'clock.

351. Can you form any opinion as to whether the vacuum brake had been applied on that train coming down?—It had been applied, both in the guard's van and in the engine.

352. How can you tell?—The handle was to the full on in both vehicles.

353. Can you tell by examination of the wheels?—I could see by the wheels, the trailing driver of the engine is scored in one place about one-eighth of an inch, as if it had been sliding.

354. Can you tell me whether that had been done on that occasion, or on some other occasion?—It was not on some other occasion, because those wheels had been turned, and a splendid flange put on them a short time before.

355. Can you tell me where you found the first mark of any sort or kind on the rails or permanent way of the engine, or any other vehicle having been off the rail?—The first mark was 78 feet from the commencement of the curve to the east of the commencement of the check rail, it was a mark on the outer edge of the sleeper.

356. A cut on the sleeper?—Yes, and then 22 sleepers had the ends cut off them, further in towards the bridge. Two sleepers were pushed on in that direction, the fastenings pushed out, and they were put skew-ways, but the inside part with the check rail was not disturbed.

357. Did you find any mark at all on the rail?—No mark on the rail, either on the high leg or the low leg.

358. What do you infer from that, it is perfectly clear that the right leading wheel of the engine—how was the engine running?—Bogie first.

359. The right wheel of the engine got over the high rail somewhere?—Yes.

360. But left no mark in going?—No mark at all in going across.

361. What do you infer from that?—Either the engine jumping from reversing or skidding from some obstruction put on the line in front of it.

362. Did you find any sign of any obstruction?—I found none on the first day, but on the second day; I went out first on the Tuesday and then on the Thursday—the accident took place on Monday evening—and on the Thursday I found a fang bolt in the river behind where the engine is lying; the fang bolt was bent, and it is one of the strongest bolts employed on that bridge.

363. Was that fang bolt missing from any part of the line?—No, there was no bolt missing. There had been some new sleepers put in slightly above the beginning of the check rail.

364. You found a fang bolt lying under the engine as if carried there?—Five or six yards from the engine in the river further back.

365. Perhaps you will describe the fastenings in that particular part?—This fang bolt (*produced*) is for the purpose of holding the rail on the sleeper, it is a bolt going through the sleeper with a clip on the cap like a washer, underneath there is what they call a crab, when you screw the head of the fang bolt you squeeze the whole thing together, and fasten the rail to the sleeper.

366. The fang bolt might have been chucked into the river?—I cannot say; the crab was screwed on the wrong way to begin with, the claw was turned out, and it was quite easy to unscrew it, and there was the mark of a stone on it.

367. Apart from that you have no suspicion of any obstruction on the railway?—I have not.

368. And you think the engine must have jumped off?—Must have jumped off.

369. Would you infer she had been running at a high speed?—Certainly, and from inquiries I made I find she was running at high speed.

370. The position she is lying in she could not have got into unless she was running at high speed?—She must have been going 40 miles an hour at least.

371. She seems to have gone right across the river?—She slid down the bank first, because I found mud and grass on her working parts, then she struck the retaining wall, and turned over and slid across the river.

372. She went across those stones on her side?—Yes.

373. (*Mr. Adams.*) Do you consider the railway at that bridge is in a dangerous state, I mean to say, apart from the way the train was running, do you consider it a dangerous construction?—No, it is quite safe if you run at a proper speed; the cant of the curve is calculated for 20 miles an hour.

374. To what do you attribute the accident, after hearing the statement by the guard and all the information you have been able to collect?—My impression is that the engine-driver lost control of the engine, and that was partly through not being able to use his vacuum brake, the rail was greasy and the engine-driver evidently got his brake screwed up as tightly as possible and the engine skidded. Then he reversed her and that reversing—I had no opportunity of examining the lower part of the engine—I think must have broken the packing near the cylinder, and the steam escaped and he was powerless.

375. (*Major Marindin.*) You think the steam escaped from where?—From the cylinder.

376. That ought not to affect his brake?—It would not affect his hand brake.

377. It ought not to affect his other brake?—The vacuum brake was opened in the guard's van.

378. The escape of steam would not affect his vacuum brake?—No.

379. (*Mr. Adams.*) I presume there can be no doubt that the train came down at an enormous rate of speed and jumped into the river, and you do not seriously attribute anything to this pin?—[*No answer.*]

The inquiry was adjourned to next morning.

Thursday, 8th June 1893.

The inquiry was resumed at 10.30 a.m.

George A. Hickson further examined.

380. (*Major Marindin.*) Can you tell me, do you know who supplied the brakes that were on this train?—The automatic brake was supplied by the builders of the carriages and waggons.

381. Do you know who supplied the machinery, the Automatic Brake Company, was it not?—Yes, Gresham and Craven.

382. And they superintended the fitting of it, did they not?—I think not; I think that was all done at the Bristol Waggon Works.

383. I believe Mr. Gresham told me his son went down?—I do not know that, but I know young Mr. Gresham has been down here.

384. Do you know the pattern of brake that we see upon ordinary trains?—Yes.

385. And this is exactly similar, only it is rather smaller in proportion to the size of the vehicle?—Yes.

386. Do you know what your regulated load is on these lines?—The specification states that the engines are supposed to draw 80 tons at five miles an hour up the gradient with a good rail.

387. Have you ever made a calculation yourself as to whether they are capable of doing that?—I would not like to put more than about 60 tons on them.

388. Have you made a calculation in the ordinary way yourself?—Well, I have not gone into the calculation. A good deal depends, of course, on the state of the rail and the condition of the engine.

389. Is there any rule of the company as to the load it is to take?—I do not think there is any load mentioned in the rule book.

390. No limit of load?—No.

391. Do you know the dimensions of the engine, the diameter of the cylinders?—13 inches.

392. And the stroke?—18-inch stroke, I think.

393. Do you know the pressure of the steam in the cylinders?—It has been tested up.

394. That is the boiler pressure?—I do not know about that. I have the plans of the engine here. I am not very well acquainted with locomotive work. The safety-valve is loaded to 120 lbs.

395. 120 is your steam-pressure?—Yes.

396. The driving wheels are 3 feet diameter, are they?—I do not know, I will find that out for you.

(*Mr. H. Peet.*) 4 feet 0½ inches.

397. Then have you ever tried whether it is possible to avoid that bad curve in the construction of the line, to improve the line by getting rid of it?—Yes, I have; you could improve that line by going further up the valley, you would lengthen the line, but you would reduce the gradient and ease the curve.

398. Which way would you go?—Further up the valley, further up than the bridge is at present.

399. (*Mr. Harrington.*) Cross the stream higher up?—Yes, it would lengthen the line by 1½ or 2 miles.

400. (*Major Marindin.*) Would that be a very expensive business?—It would cost the extra mileage at all events.

401. But I mean to say in the work?—The work would entail a pretty heavy bank, and some cutting also, a good lot of building, a new bridge.

402. Then of course it would be possible also to cross the ravine lower down, which would be a much more expensive job?—That would be a heavier job altogether, there would have to be big bridging.

403. And there would be a difficulty about the gradient?—Yes, unless you tunnelled at the top of the hill.

404. But either of these plans would necessitate the abandoning of the present viaduct?—Yes.

405. Have you at all considered whether keeping the existing viaduct you could improve it by going into the hill?—You could ease the curve at either side entering on it.

406. But not the viaduct itself?—Hardly, the bridge is built on the curve.

407. (*Mr. Adams.*) Would going higher up cost much, as you propose?—That is lengthening of the line. Taking that in connexion with a tunnel at the top of the hill, it would improve the gradient, because in my opinion the gradient is the great difficulty, on that hill it is practically 1 in 30 for three miles. To improve that gradient, as I advocated from the first time the line was promoted, the tunnel should be at the top of the mountain, at the summit.

408. (*Major Marindin.*) Yes, but we have hardly got up there; it is at this particular point, the deviation you mentioned striking southwards from the present bridge?—8,000*l.* or 10,000*l.* ought to improve that.

409. (*Mr. Adams.*) I presume the company has no fund of any kind?—The company has no working capital.

410. (*Mr. Huggard.*) The train as made up on this particular day of the accident, can you tell me what it consisted of?—I am told there were seven waggons, a guard's van, and a passenger carriage.

411. And those goods vans were loaded with pigs?—Yes.

412. Can you tell what was the total weight of the train on that day?—I have made a calculation, and it weighed 43½ tons.

413. (*Major Marindin.*) Did that include the engine?—Not including the engine.

414. (*Mr. Huggard.*) Are the company in the habit of running very much heavier trains than that?—That would not be considered a heavy train.

415. Can you say what is the heaviest train you have run over the line?—About 60 tons.

416. That is exclusive of the engine also, I suppose?—Yes.

417. Touching brakes, did the representatives of Messrs. Gresham come down here to Tralee to see them in working order?—Yes, I think it is about a year ago he came round and inspected all the vacuum brakes.

418. And recently again was here?—Not since, I think.

419. As you come down this Camp incline is there a curve at Ballygarrett Bridge?—There is.

420. (*Major Marindin.*) Can you tell me the mileage of that?—It is within about 100 feet of the 11¾ mile post.

421. (*Mr. Huggard.*) Have you formed any idea from what you have observed, and what you know of this accident, as to whether the train had attained great speed at that point?—I believe it was going pretty fast at that point, it was getting faster, from information I got up there on the spot, people who saw the train coming down the hill.

422. Is that a difficult curve to go round?—It is not a bad curve, it is very short but very sharp.

423. Now upon this particular day can you tell us anything as to the condition in which the rails were?—The rails were bound to have been as slippery as possible that day, because it came after a long time of dry weather, and fog came down and made the rail as greasy as possible.

424. Is it a fact that rain coming after three months of dry weather would produce a greasy rail?—It would; fog always creates the greasiest rail.

(*Major Marindin.*) He is quite right; he told you a fog was the worst; a "washed" rail is not a very bad rail.

425. (*Mr. Huggard.*) I am wrong, the theory was put forward here—I am not sufficiently up in the matter to say whether it is correct—that we had had three months of dry weather, and a sort of flint settled on the rail, and the rain coming on the top of that made it greasy. At any rate, we had that fog upon this morning, and you believe the rail was undoubtedly slippery with it?—It was very slippery.

426. We will have the guard of another train to give evidence about it. There have been some attempts to interfere with this line by some people in the district from time to time?—There have indeed.

427. Have complaints come in from drivers that the rails have been soaped?—Yes, I have heard complaints of that sort.

428. Can you say at what points the complaints stated?—There were two places mentioned where the rails were greased or soaped, one is at Aunascaul on an incline of 1 in 30, and the other then above Camp Bridge.

(*Mr. Harrington.*) I am afraid we will unduly protract this inquiry if we go into this. My instructions were to go pretty fully into it, and I declined as I thought it was outside the inquiry. I am informed there are persons travelled by the train when the allegation was made, and they came out and took the guard out of his van, and it is said they put his nose down to the rail to convince him there was no soap.

(*Major Marindin.*) I think it is better if you have any direct evidence that the rail was greasy or was soaped.

(*Mr. Huggard.*) We will not have any direct evidence that the rail was soaped upon the particular day of the accident, but we have altogether been unable to account for this accident happening; to my mind we have sifted it in every way, and we think it is right to put before you this evidence.

(*Mr. Adams.*) Have you any evidence that it was soaped any day?

(*Mr. Huggard.*) We have the evidence of a driver named Quinn, and it will be proved to satisfaction that the line was soaped.

(*Mr. Harrington.*) We will meet that very easily by showing that the people of the district are unable to buy soap to wash themselves with, much less to use on miles of railway.

(*Major Marindin.*) If you produce a driver to say the rail was soaped we will be bound to hear him.

(*Mr. Adams.*) And, on the other hand, we will be bound to hear anyone who says it was not soaped. Do you know whether those complaints were conveyed to the police?

(*Mr. Huggard.*) Yes, we will show you our letter to the police?

429. Were you travelling upon a train in the month of May when a fang bolt was found driven between the rails at Glanmore?—A police officer was travelling

by the train, and he came to me at the next station and asked me to identify it, and he told me where it was found.

430. Did the police officer take charge of the bolt?—Yes, and kept it.

(*Mr. Huggard.*) I telegraphed to this police officer last evening asking him to attend here; he is the district inspector of police at Dingle, and he has wired me back:—"Will you guarantee expenses. Cannot go "to-morrow. Wire will Friday do."

(*Major Marindin.*) Yes, Friday will do.

431. (*Mr. Huggard.*) Did you inspect the fang bolt yourself?—Yes.

432. Explain how it was driven down?—It was driven down between the joints, the engine and carriage went over it, and the train was stopped in consequence, and they found it and brought it away.

433. Did that happen more than once?—It happened several times.

434. (*Mr. Adams.*) To your knowledge?—To my knowledge; I was in the train one day and counted 12 coming down the incline.

435. (*Major Marindin.*) Twelve what?—Spikes driven between the joints. I was on a contractor's train. It was before the line was opened.

436. (*Mr. Adams.*) Was that done deliberately?—Certainly.

437. (*Mr. Huggard.*) Since the accident have there been any matters of the same kind?—Big stones put on the line.

(*Mr. Harrington.*) I must say I am rather surprised at the company deliberately opening a field of this kind, which will compel us to go into it. I think it is a very injudicious thing for the company to challenge us. We are inquiring into an accident, and anything that can throw light on it may be of use, but to go into the history of the relations between the company and the people will be very injudicious for the company themselves.

(*Major Marindin.*) That is for the company to consider.

(*Mr. Harrington.*) I was advised to go into it, but I thought it was outside the scope of your inquiry, and I rather thought from your opening remarks that it was so. I would be unwilling to go into it, but I will do so if Mr. Huggard challenges it.

(*Major Marindin.*) I do not think we ought to go into anything that happened after the accident, anything that tends to make an accusation, or shows bad feeling; but if anything shows that it is possible this accident was caused by a spike or bolt or stone being on the rail it is quite right we should hear all the evidence we can about it.

(*Mr. Huggard.*) Well, sir, I suppose we may pass away from the entire subject now.

(*Mr. Adams.*) You have exhausted it, I suppose; that is very generous of you.

(*Mr. Huggard.*) I would like to read for you the letter which we wrote on the 15th April to the company's inspector of police in reference to the rails:—"Sir,—I beg to inform you that on several "occasions latterly our rails have been rubbed over "with soap on an incline of about 250 yards on the "Tralee side of Aunascaul, and again at the very "steep incline at Camp village. This is particularly "dangerous, much worse than grease, and renders "our powerful brakes useless if applied."

(*Mr. Harrington.*) I am told that Major-General Hutchinson actually came here to make an inquiry with regard to this allegation, and if he has taken evidence with regard to it, and made a report, would it not be better for the Commissioners to have his report?

(*Major Marindin.*) Oh, certainly.

(*Mr. Huggard.*) I do not think there was anything of the kind at all; this is a letter written since Major-General Hutchinson was here.

(*Major Marindin.*) General Hutchinson was here about that time.

(*Mr. Harrington.*) When this letter was written as a matter of fact General Hutchinson was inquiring into the matter.

(*Major Marindin.*) Was this letter produced before General Hutchinson at all?

(*Mr. Huggard.*) I do not think so.

(*Major Marindin.*) Well, was this fact mentioned before General Hutchinson?

(*Mr. Huggard.*) I do not think so.

(*Major Marindin.*) He was inquiring into a totally different matter.

(*Mr. Huggard.*) I find he was here on the 22nd March.

(*Major Marindin.*) You are quite right, the inquiry took place on the 22nd March.

(*Mr. Huggard.*) This letter was not written until the 15th April. It is my recollection at any rate that nothing of the kind came before him at all.

(*Major Marindin.*) It certainly does not appear in his inquiry, which was more in relation to the management of the line, and matters in dispute as to rates, and so on.

(*Mr. Huggard.*) There was no question of the kind came up: We say:—"This is particularly "dangerous, much worse than grease, and renders "our powerful brakes useless if applied, should an "occasion to stop arise at the places mentioned. It also "hinders to a very great extent the wheels of an engine "in getting a proper grip when ascending. Could "you kindly arrange for private inquiry to be made "so as to bring the guilty parties forward? We have "milesmen on the watch, but do not expect much, as "they belong to the district." The reply from the company's inspector was:—"Dear Sir,—Since the "receipt of your letter of the 15th inst., I have had a "careful watch kept on the points of your railway "indicated as likely to have the rails soaped, and it is "reported to me that nothing of the kind has since "been attempted. The police will continue looking "after this matter." That is dated the 1st May.

438. (*Mr. Adams.*) I presume if the line was soaped it would bear traces upon being examined, you would find abundant traces of the soap upon it?—The traces of soap might be rubbed off by the wheels.

439. Surely if it was soaped for a long distance it would be impossible there would not be traces of it?—The way it was done was it was dabbed here and there; you certainly would find traces.

440. Was any search made for such traces after the accident?—There were; the engine-driver got down and examined the line; he says he did not find traces.

441 (*Major Marindin.*) No, the engine-driver was killed, but after this accident?—Oh, the line was examined after the accident.

(*Head Constable Cusack.*) I examined the line immediately after the accident, within an hour and a half.

(*Mr. Adams.*) We will examine you.

442. (*Mr. Huggard.*) Now, Mr. Hickson, upon a day that the rails were not greasy, what would be a safe pace to come down the hill at?—Ten or 12 miles an hour easily, as far as safety is concerned.

443. Could you going at 12 miles an hour, could you in a reasonable distance stop the train with your vacuum brake?—We could stop a train in 200 or 300 yards.

444. Have you come down at 12 miles an hour?—I have, and faster.

445. With as heavy a train as this?—It was a ballast train; it might not have been so heavy.

446. Does the vacuum brake apply to all the carriages on the train?—Yes.

447. Is there a hand brake in every carriage?—No, on the engine and the van at the end of the train.

448. Is there a lever hand brake on every waggon?—On all the ballast waggons there is a side brake.

449. (*Major Marindin.*) Do you know whether there is a brake on these ordinary goods waggons?—Yes, I say there is a side lever brake on all of them.

450. (*Mr. Harrington.*) You heard Mr. Huggard read a letter addressed to the company's inspector?—Yes.

451. It struck you that the language was particu-

larly strong about "our powerful brakes," did it not?—The brakes are powerful.

452. The letter did not refer to brakes merely, but to powerful brakes; would you describe them as powerful brakes?—Certainly.

453. And the brake on this particular engine on this day?—I do not know about that, because I have nothing to say to the locomotives; I know generally about the brakes.

454. You were, I believe, one of the promoters of the line?—Yes.

455. And I think you were sanguine enough to believe at the time, and to assure the ratepayers that this would only entail an expense of about 2*d.* in the £ on them?—I fully believed the line would be a paying one.

456. ¾*d.*, but the extreme would be 2*d.*, I think, in your statement?—I do not recollect that.

457. And I believe, as a matter of fact, it is now about 2*s.* in the £?—Yes.

(*Mr. Harrington.*) I merely ask that in reply to your observation as to where the money could be got from for any alterations.

(*Mr. Adams.*) It is plain there is no money available.

(*Mr. Harrington.*) And I am afraid, sir, there is no money even for buying soap among the unfortunate men up in that district, where it is said to have been so lavishly used. With reference to the bolt, I do not know how much importance you attach to it, but I should like to ask one or two questions.

458. (*To witness.*) You visited the scene of this occurrence on Tuesday?—On Tuesday morning.

459. You did not find the bolt then?—No.

460. You visited it on Tuesday evening?—I was there all day on Tuesday getting the line clear, and on Thursday then I went out to examine the engine more particularly, and it was in the river near the engine I found the bolt.

461. This bolt that attracted so much attention from you, you found in the bed of the river; I think you said something about the mark of a stone being on it?—Yes.

462. If it had been thrown off the line into the bed of the river, a dry river at the time, there would have been the mark of a stone on it?—It might have got the mark of a stone that way.

463. Suppose the bolt had been on the line as you describe, it would have been an extraordinary combination of circumstances that the engine should take head at the very top of this incline and run away down to meet this bolt that was specially put there. But setting that aside, if this engine came in contact with this bolt maliciously would it not be an extraordinary thing that the engine would be lifted out of its way and turn back and take the bolt with it?—My impression is that if the bolt was there it would cause the engine to jump and send it off.

464. And how would the bolt follow it?—A blow from any of the working parts of the engine would carry it away.

465. (*Major Marindin.*) This could not have been in the same position as the other bolts you describe, they were driven?—Yes.

466. And this bolt must have been lying across?—Yes, tilted up.

467. (*Mr. Harrington.*) If it was laid at all on it would have been on the inner rail, but not on the outer one?—No, I think it would have been on the outer rail, the high leg.

468. In the interval between the time the accident occurred and you found the bolt on Thursday, to your own knowledge, there were some hundreds of persons on that line?—There were a great number.

469. The line was being repaired?—It was carried out the first day, and was finished in the evening.

470. Bolts of this kind were in frequent use in repairing the line?—These particular bolts were used on the bridge, they were specially heavy ones.

471. (*Major Marindin.*) There were some of those taken out?—There were a few taken out and others put in again, there were none lying about.

(*Mr. Harrington.*) It was a bent bolt and naturally enough it was rejected in the repairing of the line.

472. (*Mr. Adams.*) Was it bent?—Yes.

473. (*Mr. Harrington.*) I need not labour that point because anyone can see as well as yourself.

(*Major Marindin.*) When you come to see the bolt I do not think it would have been thrown away by one of the workmen of the line; it had the clip put on the wrong way up.

(*Mr. Harrington.*) It might have been rejected, but not thrown into the river; it might have been rejected for the purpose of repair and picked up by any of the numerous persons there and thrown into the river.

474. The jury were all on the scene on Tuesday?—They were. My attention was drawn to this particular bolt in consequence of the attempt made at Glanmore Bridge on 8th May.

475. Now let us have it clearly, in looking at this disaster and what took place about it, you do not seriously believe the bolt had anything seriously to say to it?—I do not say that at all, but I say the position in which the bolt was found makes it perfectly possible that the bolt was on the line.

476. Let us get a definite reply one way or the other, do you connect that bolt with the accident?—I say if the bolt was there——

477. Let us have one straight answer now, there is no use in introducing this bolt if it had not something to say to it?—I think it is my duty to introduce it, having found it in the position in which I found it.

478. Do you in your own mind connect the finding of the bolt with the throwing off the line of the train?—I do personally to a certain extent.

479. Your view is that the train took head at the top of the incline, ran away down, the guard and driver lost all control of the train, it was going at 40 miles an hour, must have been, and your evidence is that it was necessary to have that bolt on the line to throw it off. Would it go off without it?—I will not go so far as to say that.

480. You will not say that it would have gone off, going at the rate of 40 miles an hour round a curve calculated for 5 miles, it would not have gone off without the bolt?—It depends on the way the engine came into the curve.

481. Taking all the circumstances you have heard and described, and your admission that the train was going at 40 miles an hour, would it go off at that curve, calculated at 5 miles an hour, without a bolt or something to throw it off?

(*Mr. Huggard.*) Would it necessarily?

(*Major Marindin.*) Would it probably?—If the train was braked going into the curve it would probably jump off.

482. (*Mr. Harrington.*) With the circumstances I have mentioned, the train going 40 miles an hour, round that acute curve, I believe one of the most acute curves you could imagine, and considering the elevation, and all the circumstances, would it be likely to go off the line, without a bolt to throw it off?—She might possibly go off at 40 miles an hour.

483. Probably?—Well, probably.

484. (*Mr. Huggard.*) Not necessarily?—Not necessarily.

485. (*Mr. Harrington.*) Just coming to that point in your evidence after you discovered the bolt, I think you used the expression "it jumped clean off"?—Yes, it must have jumped clean off; it left no mark on the rails.

486. Upon that question of jumping, I think you said that you noticed that the engine was reversed?—Yes.

487. Would the mere reversal of the engine against the following carriages, pressed on by the other carriages, in your mind be calculated to cause the engine to jump?—It would.

488. Would that without anything on the rails?—Reversing an engine going at that speed would be apt to make her jump.

489. (*Major Marindin.*) Not the weight of the carriages?—No, the fact of reversing.

490. (*Mr. Harrington.*) But would not the jumping be increased by the pressure of the other carriages when they recovered their slack against it?—No, there would not be any bumping like that, going at that speed, the engine would jump on the rails herself.

491. But my point goes a little further, that inasmuch as the engine was pulling, and had the connexion pulled tight, that the moment it was reversed and came against the carriages, especially if reversed at that point, the impact of the carriages would increase the jumping?—I do not think it would.

492. You told us yesterday there were some deviations from the original plan in the construction of the line?—Yes.

493. Was there a deviation at this particular place?—No.

494. I see in a report of Major-General Hutchinson he drew attention to a discrepancy in the mileage, and especially with reference to the bridges; have you any recollection of that?—No, I have not, but I know the mileage would be very slightly altered in consequence of the deviation coming into Tralee.

(*Mr. H. Peet.*) That was all corrected at the time.

(*Mr. Harrington.*) But the singular way it was corrected was that the plans were altered instead of the bridges, which I look upon as a very singular mode of alteration.

(*Major Marindin.*) How could the plans be altered?

(*Mr. Harrington.*) It so happens that it is. Major-General Hutchinson draws attention to the fact that there was a great discrepancy in the mileage, especially as to the construction of the bridges, and he recommended that the plans should be returned to be altered.

(*Major Marindin.*) I think what he meant was that the plans were returned so that the mileage, the figuring, might be altered.

(*Mr. Harrington.*) It may be the plan was wrong, or the bridge set down at the wrong place, that is what I want to get at.

(*Major Marindin.*) In the plans furnished to the Board of Trade the mileage was probably figured on it originally without the deviations, and you will find the plans are probably corrected in red ink, the figuring of them.

(*Mr. Harrington.*) That is what I would like to see, because it struck me as a strange thing that the plans should be returned to be corrected, if the bridges had been put in the proper place, and there had been no deviation from the plan; what I wanted to know is which of the two is correct?—It was the alteration in the deposited plans that made the alteration in the mileage.

495. At the end of the report of the 24th December 1890 this paragraph occurs:—"There is considerable "discrepancy in the mileage of some of the bridges "as given in the details, and as actually placed in "position on the line, and the details should be "returned for amendment in this and some other "details marked on them"?—That did not alter the position of the bridges at all; it was a difference of mileage on the plan, the plan was altered for deviation, and then the mileage counted from another point.

(*Mr. Huggard.*) He referred to a list of bridges which he got the figuring upon.

(*Major Marindin.*) I think, Mr. Harrington, you will find that the original figuring is altered, the original is with the mileage commencing from a certain point, without the deviation, and when they put the deviations in that altered the mileage all up the line. I have the plans here, the original figures in black and the revised figures in red.

(*Mr. Harrington.*) That is what I wanted to get at, so long as it was not the construction of a bridge in a place not authorised by the plan.

496. (*To Witness.*) This line was examined by Major-General Hutchinson at different times?—Yes.

497. Can you say whether you think if he had been perfectly free he would have approved ——

(*Major Marindin.*) I do not think we can ask Mr. Hickson what General Hutchinson would have done.

(*Mr. Adams.*) If General Hutchinson made any statement, but you could not ask what was in his mind.

498. (*Mr. Harrington.*) I will read what he said:—"The steepest gradient is an incline of 1 in 30, and "of gradients between 1 in 30 and 1 in 40 there are "on the main line in all about 10 miles, and on the "branch, 30 chains, the longest unbroken length of "these several gradients extending over nearly three "miles is," at this particular point we are speaking of, where the accident occurred, "from 10 miles 66 "chains to 13 miles 60 chains on the main line. The "radius of the sharpest curve on the main line is four "chains, and on the branch five chains. These "gradients and curves are authorised by Orders in "Council." Does that strike you as a remarkable expression to put after the description of these curves and gradients, it looks as if he disavowed responsibility himself?—I do not know.

(*Major Marindin.*) There is a mistake there, evidently a clerical error.

(*Mr. Harrington.*) That is what I am going to come at. I knew you would catch it, sir, and I wanted to know whether it was a mistake. It says, "The radius of the sharpest curve on the main line is 4 chains."

(*Mr. Huggard.*) The original has it so.

499. (*Mr. Harrington.*) That is what we want to come at; that is an important thing. Well, as a matter of fact, the radius of the sharpest curve on the line is not 4 chains?—No, it is 3 chains.

(*Major Marindin.*) I think, perhaps, I may mention that it is evident, in drawing his report, General Hutchinson took the radius of the curve off the details here, and in that this curve is shown at 4 chains; on the plan itself, which was also before him, that curve is shown as 3 chains.

(*Mr. Harrington.*) Precisely so. My point is that Major-General Hutchinson, in approving of this line for public traffic, had the impression on his mind that this curve had a radius of 4 chains instead of 3 chains, and he never would have approved of an acute curve at the end of a long succession of gradients of such a character except in the belief that the curve was a 4 chain radius. I think it is due to General Hutchinson himself that I should draw attention to that, because he has got a good deal of undeserved odium with reference to this line.

500. You have been the engineer of the railway since the report was made; have you ever noticed this discrepancy between the figure in General Hutchinson's report and the actual figure?—No, I did not.

501. Until I drew your attention to it now?—Three chains was what I always said; I never noticed it before.

502. As a matter of fact that makes a very serious difference in a curve, a chain radius?—Yes.

503. And it would make a difference—I do not know that I am sufficiently technical; I think you call it the super-elevation—it would also make a difference in the super-elevation?—It would not make very much difference in that between 4 and 3 chains radius.

504. It would make something of a difference?—It would make a very slight difference.

505. Is there a basis for calculating in engineering what fraction of an inch would a difference of a chain radius make in a curve, disregarding the rate of speed?

(*Major Marindin.*) The great fact is the speed.

(*Mr. Harrington.*) The main element of this thing is the succession of long gradients.

(*Major Marindin.*) In calculating for the super-elevation the speed is the greater factor of the two I think Mr. Hickson is nearly right.

(*Witness.*) Calculated at a speed of 20 miles an hour the super-elevation would be 4·68 for 3 chains.

(*Major Marindin.*) And therefore the super-elevation, as it is now, is very much over.

506. (*Mr. Harrington.*) What would it be for 4 chains ?—It would be about $3\frac{1}{2}$ inches.

507. What is it now ?—At present it is $4\frac{3}{4}$, and by theory it is 4·68.

508. (*Major Marindin.*) Your $3\frac{1}{2}$ is given for 5 miles an hour ?—No, it is calculated at the same speed 20 miles an hour.

509. (*Mr. Harrington.*) As we have touched incidentally on that subject of super-elevation, we may as well dispose of it. Super-elevation on a curve is an important matter in the construction of a line ?—Yes, the cant of the curve is important.

510. And, as the Commissioner told us, there are two elements to enter into it, the acuteness of the curve and the speed ?—Yes.

511. You have told us that it is 4·75 actually ?—Between $4\frac{3}{4}$ and 5 ; some of it is 5.

512. Now has that super-elevation been altered since the accident ?—No.

513. You are quite certain there was no alteration ; the line has been relaid since ?—Oh, no ; only 22 new sleepers put in ; the ones that were cut we put in new.

514. Did you superintend that yourself ?—Yes, I was there all day after the accident.

515. If it was said the super-elevation was increased that would be untrue ?—Yes, it is the same all through ; I took levels on it with a level and staff accurately, and took the difference between the two rails.

516. Did you take any level before taking off the metals to relay ?—No, after.

517. That is the important thing ; when you were relaying the line what standard did you take for your super-elevation ?—There was no necessity ; the line was not disturbed, except the end of the sleepers broken ; these were taken up and new ones substituted.

518. But in putting in the new sleepers packing had to take place ?—Yes.

519. When you commenced to work you did not at all measure the super-elevation ?—I carefully examined the line the very first thing when I went out that morning.

520. Now I would like to get this thing technically accurate ; you understand it better than anyone I could put up as a witness. When you commenced to relay the line you did not take the super-elevation before you commenced the work ?—I did not.

521. Then when you laid the rails again you took the super-elevation ?—Yes.

522. Upon what basis did you take the super-elevation, then ; what did you want to regulate it by ; what standard ?—I wanted to see that the line was properly laid.

523. But according to what standard ?—I do not quite understand.

524. What super-elevation had you to put on ?—The proper super-elevation was 4·68, and I put on $4\frac{3}{4}$.

525. And you regulated that the super-elevation should be all right when you finished, but you did not concern yourself with any inquiry as to what the super-elevation was when you commenced the work ?—No, I was more employed in getting the waggons off the road.

526. (*Major Marindin.*) Can you state that the super-elevation before the accident was the same as it was after ?—Not exactly, because I did not measure it, but I know the place so well that I know there was no change.

527. (*Mr. Harrington.*) Do not go too far that way ; I may have evidence of some skilful eyes that were looking on. The unfortunate man who was killed was permanent way inspector ?—Yes.

528. Was it within his power to alter the super-elevation ?—No, he should come and consult me first.

529. As a matter of fact, do you know, did he ever interfere with the elevation ?—He did in another curve that I told you of on the branch line.

530. Have you any written evidence of his coming to seek your sanction ?—No, I had a conversation with him only.

531. Did the conversation occur before or after the alteration ?—He asked me to allow him to alter the super-elevation on this curve crossing a public road, and I said, "Certainly, you go across it at such a slow speed that it is not necessary."

532 It is the question of the speed ; that is all very well if the brake works, but if the train alters its own speed and takes the train and brake and everything else with it.

(*Major Marindin.*) Supposing the super-elevation of that 3 chain curve had been laid and calculated for 40 miles an hour a train going at 5 miles an hour would go over the lower rail ; it would have been too high ; they must calculate for something over the presumed speed, but not too much over. If they calculated for this runaway speed they would endanger a train that was going at the regulation speed.

(*Mr. Harrington.*) I am not quite sure it would ; I think even up to 40 miles an hour it would rest on that.

(*Major Marindin.*) I have known cases where the super-elevation was too much and the accident was attributable to the super-elevation being too great ; the engine went over the low rail.

533. (*Mr. Harrington.*) Is it your opinion, can you give us any opinion as to whether the engine toppled over or jumped off ; is there anything that would guide you in that position of affairs to the belief as to whether the engine jumped off ?—She jumped off the rails undoubtedly.

534. It could not be toppled over ?—I know what you mean.

535. What I mean is this, if it were rounding a sharp curve—I will illustrate it ; I believe you were kind enough to construct the bicycle track of the Tralee Grounds ?—Yes.

536. Which is the admiration of all racing men in the bicycle world ; can you tell us what super-elevation you allowed there ?—I forget now ; I know it is 5 feet high on the outside and the track is 20 feet broad.

537. If this engine was running down at this extraordinary speed and the super-elevation was not sufficient it may topple over instead of jumping off ?—Yes, she might if there was not sufficient super-elevation ; going at a tremendous speed centrifugal force would throw her over.

538. From the position of the engine or anything else, is there anything in the position of affairs that would lead you to believe that it did not topple over, but jumped off ?—There is no mark on the rail where the engine wheel mounted it.

539. Would not that be just as likely to occur through the toppling over as anything else ; that was one of the circumstances which led me, probably from my want of knowledge, to assume she toppled over ?—One evidence that she did not topple over is that she is lying the other way, turned towards the side of the curve on her left side.

540. But lying upside down ?—Unless she turned completely over, and I do not think that is likely to have occurred.

541. The gauge ties seem pretty slack and loose at that point ?—Yes, the gauge of the road.

542. Were they loose before ?—Yes ; the first thing I did was to gauge the road before touching it at all.

(*Major Marindin.*) I do not think you understand Mr. Harrington ; the gauge ties ; the gauge was slack no doubt round the curve, but your gauge ties Mr. Harrington says.

543. (*Mr. Harrington.*) I believe, as a matter of fact, at a lower point—it is just as an element of consideration with regard to the vigilance over the line—at a lower point below this bridge the regula-

tion gradient is actually departed from?—There is a slack of 1 in 29 further down.

544. Are you sure there is not one of 1 in 26?—Yes. I have the levels; my assistant will prove it.

(*Mr. Peet.*) There is for a length of 70 feet 1 in 26.

545. It does not come within the area of the accident, but when was your attention directed to that?—When the levels were taken.

546. After the accident?—Yes, that is the time I got the level put on it, but I always knew that that was a very steep piece, and it was in my mind to improve it.

547. But for the sake of the public, and when the Board of Trade approved of a gradient of 1 in 30, do not you think it ought to have been improved immediately; can you tell me how long it has existed in that state?—It is a gradual settlement in the bank since the construction of the line; it was laid out originally to 1 in 30.

548. And it has been going and going until it went down to this, so since the construction of the line that gradient was allowed to exist?—The gradient was laid out at 1 in 32.

549. And it is now down to 1 in 26?—A short turn approaching the accommodation bridge.

550. (*Major Marindin.*) The linemen have not kept the line lifted up as it went down?—Yes.

(*Mr. Harrington.*) That is the difficulty; they are not in a position to keep this line in thorough repair.

(*Major Marindin.*) If the number of men Mr. Hickson told us he had on the line was correct there is no reason that a gang should not be able to keep the line properly lifted.

(*Mr. Harrington.*) I think they vary.

551. (*Major Marindin.*) Is there any reason that your gang and inspector of permanent way should not have kept that line lifted?—That particular portion there is no reason why they should not; in fact, I was going to improve that gradient.

552. (*Mr. Harrington.*) This is one of the engines taken over from the contractor?—Yes.

553. Had been in work with the contractor for a long time?—During the construction of the line.

554. Do you know of your own knowledge that there was a division of the board as to the taking over of this engine, and some of the directors opposed the taking over as being unsafe?—No, there was nothing of that sort as far as I recollect at the meeting. What was said was that the contractor should put the engine in perfect repair before the board would take them over; the contractor offered to pay the money to do this and let the board do it themselves.

555. (*Mr. Adams.*) Was that accepted?—Yes.

556. (*Mr. Harrington.*) And it was done locally here whatever changes were done?—There were men brought over from Leeds, and outside fitters got to do these repairs to this engine at different times.

557. That was not immediately after the taking over of the line?—The repairs had been going on from time to time at different times since the taking over of the line.

558. Am I correct in saying that these men were brought over from Leeds 12 months after the line was opened?—I cannot say when they were brought over, but I know they were over doing work.

559. As a matter of fact you know something about the differences at the board; do you know that Mr. Hussey voted against the taking of them?—I cannot recollect.

560. Or Captain De Moleyns?—I cannot say about that.

561. Do you know they expressed an opinion against it?—I know they were opposed to taking over the engines in the conditions in which they were.

562. In what condition were they?—The condition in which you will find any engine after a contractor has been using it.

563. What sum, let us come to something definite, what sum did the contractor allow for the repairs of the engine?

564. (*Mr. Adams.*) Of this engine?—I cannot say for that engine; Mr. McCowen, I think, has it.

(*Mr. McCowen.*) There was no particular amount put on each engine.

(*Mr. Harrington.*) I only want to set you on the track of an inquiry of this kind; it is really not a subject for me to go fully into, but I assume you will want to get definitely from the company the amount they got for the repair of the engine, and the amount they expended on it.

(*Major Marindin.*) I will want evidence as to the state of the engine; it does not matter what they spent on it; I shall be able to calculate for myself whether it was a suitable engine or not.

(*Mr. Harrington.*) I have no doubt of that; all I want is to set you on the track. While Mr. McCowen is getting that I will take you to some evidence as to the working of this engine on this particular day. Though we have not this evidence before us, yet it would be more convenient that I might ask a few questions of Mr. Hickson as to the evidence given at the commencement by the man who was on that train.

(*Major Marindin.*) I have not seen a word of that evidence you are anticipating a little. However, I have no objection.

(*Mr. Harrington.*) Yes, because I would have to recall Mr. Hickson, and it is better to ask him a few questions now.

565. You were at the inquest, I believe?—Yes.

566. Did you hear the guard O'Leary examined?—Yes.

567. I want to bring you in contact with a portion of his evidence for the sake of getting an opinion from you. I think it is better I should read this at a little length: "Before reaching Lispole the engine was "slipping for ¾ mile." That was going up the hill?—Yes.

568. "I was on the line throwing sand on the rails before the engine"?—Yes, I heard that.

569. "They stopped at Lispole for five minutes. Approaching Aunascaul there is a curve on the road, and the engine-driver ran very quick, carrying the train 140 yards or more beyond the station. They should stop there to take water, but the great speed prevented them, as the rate of speed approaching the curve was not changed.

"(*A Juror.*) Did you use the hand-brake?—Yes, sir.

"It was no use?—Well, I think it was a little, but at the rate of speed we were getting it could not check her altogether.

"(*Mr. Lowndes.*) Did you try to check her?—Oh, yes, we had to come back to the tank again and remain about ten minutes. I had a conversation with Redshaw. I left the van and went to him, where he was taking water. I told him I should get steam for the vacuum." It is already detailed that the engine-driver had taken the steam from him evidently for the purpose of coming up the hill. "The sense of that is to extend the vacuum to the whole train, because I told him it was necessary to do it through his running through the station, because I expected if the vacuum was on it would not have occurred. Did you say anything about running off the rails?—Not there, but I did at Aunascaul.

"(*Mr. Morphy.*) What did you say about coming off the rails?—I told him were it not for the road being right, and the points made, we would run off the rails." That is before they came to Camp, the top of the decline: "He refused to extend the vacuum to the "train, and I refused to travel and told him I would "go no further, and then he agreed to give me the "vacuum."

(*Mr. Huggard.*) I do not like to interrupt, but as we will have this man here, and he will be examined, one of the next witnesses, I think it is inconvenient going back on a newspaper report of what his evidence is.

(*Major Marindin.*) Mr Harrington wants to ask some question grounded on this evidence.

570. (*Mr. Harrington.*) I want to read this portion of the evidence and ask one question on it. You

recollect that part of the evidence: it is substantially correct?—Yes.

571. I only want to ask you one thing, summing up the whole thing. "(*A Juror.*) Did he give you any reason for refusing to give the vacuum? I asked him why he came so quick to the curve, and he said it was on account of the greasy rail. It would not have happened, said I, if the vacuum was on. No, said he, it is no good at all on this occasion. It is usual to have it always, I know I should have it at all times. He consented to give it, and we started on, it being then about half-past two." He was asked had he a record, and he said, "No, he lost his book in the "disaster." "We ran until we came to a standstill "opposite Bob Moriarty's."

(*Mr. Huggard.*) Now, I think we are going too far. The reason I would interfere is that I do not believe this newspaper report is correct at all.

572. (*Mr. Harrington.*) Let us have it from the witness, did you hear that?—I heard the drift of that evidence.

(*Major Marindin.*) Could you not ground your question, whether he remembers what the guard said, and if he does.

(*Mr. Harrington.*) But for convenience I was reading it, assuming the witness would stop me.

(*Mr. Adams.*) We have seen sufficiently what the passage is, do you ask him any question now?

(*Mr. Harrington.*) I have not read sufficient for the witness to enable him to answer the question.

(*Mr. Adams.*) Then it is a good deal better to let Mr. Harrington go on, if the newspaper report is inaccurate it can be amended.

(*Mr. Harrington.*) I want to ask him one question grounded on this evidence whether the brake was efficient: "We ran until we came to a standstill "opposite Bob Moriarty's, where the engine slipped "for a long time, and he said it was necessary to back "into the station again. We did back in and the "train came across the hill all right."

Now this is the part I want specially to direct your attention to: "We came slowly, he had very little "stopping; about 200 yards this side of the hotel the "engine again came to a standstill, and he was trying "to start, and she was going backwards and forwards "for nearly half-an-hour. He used run a length of "metal and back again."

573. Did you hear that portion?—I did. "We "moved slowly until we arrived at the first crossing "on the country road the other side of Aunascaul." Evidently they stopped there. "All the jobbers got "out of the train, I could not say why we stopped "there, but we remained ten minutes. Some of the "passengers said they would get cars, and some said "they wanted refreshments, but I used influence with "a man from the town, saying, 'Bring back the "'passengers, and you will find we will get on all "'right.' They all came back again and got into "the train, but before we started Mr. Redshaw came "to me and he said:—'What is the best to be "done?' I asked him what was the matter, and he "made no answer, but jumped down and examined "the motions all round, and got up again, and shortly "got off and said:—'I cannot put her either back or "forward now.'"

(*Witness.*) I did not hear that portion of the evidence.

(*Mr. Huggard.*) Or anybody else.

(*Mr. Adams.*) It would be very well at this stage if any controversy should arise, and which I see may arise, if we had the coroner's depositions in court.

(*Mr. Morphy.*) That was undoubtedly said at the inquest.

(*Mr. Adams.*) Now if someone would kindly communicate with the coroner, because the depositions are read over and signed by the witness.

(*Mr. Harrington.*) On that assumption, without delaying you, now taking all that I have read, I will read one or two lines further: "I thought he looked "very excited and troubled and fatigued, and the "Sergeant of Aunascaul was standing and looking "on." It would be very important if we could have that sergeant; he was not at the inquest. "I told "him the man was getting discouraged, or there was "something wrong with either him or the engine. "After a few minutes more we moved the train and "started away. I think we had a few other stops, "but I quite forget where. I am sure we had. We "had one after passing Emalough Station. There is "a pretty stiff incline there, and we stopped half-way "up. I got out of the van and went up to Mr. Red-"shaw, and he said:—'If you agree with me to cut off "'the vacuum, it is quite unnecessary for you to have "'it, there is no necessity for you to have it until we "'reach the top of Glen-na-galt.' We had some dis-"cussion, and he said:—'I cannot get up to the top "'of the hill unless you agree to do it.' And I did "agree. I refused to take it off until we got to the "level, and I did take it off there, and we had no "other stop until we got to the top of Glen-na-galt."

574. Now assuming there is only a per-centage of truth in that, do you think anybody reading it would believe that the engine and brake were in working order that morning?—They would certainly appear not to be.

575. (*Major Marindin.*) Engine and brake?—The brake was splendid, and the hand brake in perfect order.

576. (*Mr. Harrington.*) I put all that condition of things described by that man to you as evidence that it was impossible to stop that engine running down the hill; he had no power over it, whether it was failure of brake or steam, where it failed to drag the engine up the hill, it equally failed to stop it.

(*Major Marindin.*) I think the whole of the evidence of the guard that you read out may show that the engine was incompetent to draw the train up the hill, but there is nothing whatever to show the brake was out of order.

(*Mr. Harrington.*) If the engine was incompetent from any cause to draw it up the hill, not being overweighted, what I want to put before you is this, that the same incapacity which affected it in coming up the hill, affected it in coming down.

(*Major Marindin.*) Not necessarily. It appears to me that the driver, finding he could not pull the train up the hill, shut off this small ejector, which he ought to have kept running by the rules all the time in order to save all the steam he could and give him more power going up the hill, that would not prevent him from recreating his vacuum when he got to the top. I do not say that the brake was in order, we have not had the evidence yet, but that does not show it was out of order.

577. (*Mr. Harrington.*) I see that he was required to have 18 inches of vacuum at that particular point at the top of the hill, and I believe he is supposed by your rules to examine all the brakes before starting over the incline?—Yes, at the top of the hill in cattle trains you are supposed to pin down a certain number of waggons before going down the hill.

578. The length of flat at the top of the hill is very small?—It is not a great distance.

579. It was not sufficient to cover the train?—I think so, I think it could stand on it.

580. Considering that 18 inches is the standard, would 17 inches render it inefficient?—Oh, no; 15 inches on that train was a good vacuum.

581. For this particular decline?—Yes, 15 inches is a good vacuum.

582. (*Mr. O'Reardon.*) As regards this resurrected bolt, if that bolt struck the flange of a wheel, would there not be a cut or a nick in the bolt?—If the driving wheel struck it, it would cut the bolt.

583. The bogie would touch it first, if it went over it, it would cut it, and there is no cut?—There is only the bend in it.

584. (*Mr. Morphy.*) I represented the next-of-kin of the driver at the coroner's inquest, and I put forward two propositions, which I think were proved at the inquest; it will be for you to judge whether

there is anything in them or not. First of all, Mr. Hickson, when the train was going down that gradient towards Camp Bridge it would be necessary, in order to make the vacuum brake effective, that it should be intermittently applied?—Yes.

585. It would not be effective or safe to put it on and not touch it again until they went over the curve?—No, the proper way to use it is to apply it and then take it off, and apply it again to create that vacuum.

586. When the vacuum brake is put on by the driver is there not an indicator in the guard's van to show it is on?—Yes, there is a gauge.

587. And then the guard puts on his?—No, he is not supposed to touch his brake; he sees the amount of vacuum indicated by the gauge.

588. Is it not usual that he puts it on when the driver puts his on?—No.

589. Did you hear the guard swear that he put on the lever behind when he was going down hill?—Yes.

590. Did you hear him swear that he could not remember whether he ever took that lever off?—I saw it in the report. I did not hear that evidence.

(*Mr. Horgan.*) He swore nothing of the sort.

(*Mr. Morphy.*) I was at the inquest throughout, and there was a good deal of discussion on the point.

591. (*To witness.*) At all events you heard a rumour he did swear it?

(*Major Marindin.*) Do not let us have rumours.

(*Mr. Morphy.*) It is material in order to get at the truth that we should have what took place at the inquest, because I would not be surprised if the guard unsaid now all he said then.

(*Mr. Horgan.*) You have no right to say that of a man who saved all the people's lives.

(*Major Marindin.*) I have nothing to say to the evidence given at the inquest; it is the evidence given before me; if it turns out the guard's evidence is totally different before me to what it was before the coroner Mr. Harrington's questions will fall to the ground.

(*Mr. Harrington.*) The guard is all right.

(*Mr. Adams.*) It is quite plain we must have the depositions; we cannot again have any newspaper referred to.

592. (*Mr. Morphy.*) Did you hear a man named Talbot, who was in the van with the guard, examined at the inquest?—I heard part of his examination.

(*Mr. Horgan.*) I object to giving secondary evidence of what Talbot swore.

(*Major Marindin.*) Mr. Morphy is only asking on the assumption that somebody did say something.

(*Mr. Morphy.*) Mr. Adams will say whether the question is regular. This is evidence given at a judicial inquiry.

(*Mr. Adams.*) Assuming Talbot said so and so.

593. (*Mr. Morphy.*) Did you hear Talbot swear that the guard when he put on the brake did not take it off again?—I did not hear it, but I saw it in the paper.

594. If the guard had not removed the lever to take the brake off is it not possible that that vacuum would have exhausted itself before the train came to the curve, and that the driver would be powerless to put the vacuum on again?—It would deprive the driver of the power to create a fresh vacuum.

595. And using the brake effectively?—Yes.

(*Major Marindin.*) That is on the assumption that the whole vacuum escaped before he got to the bottom of three miles.

596. (*Mr. Morphy.*) Yes, it is very possible and probable, considering all we know about this railway. I asked you some other questions at the inquest about your brake vans. This was not a brake van in the ordinary sense at all at the rear of this train?—No, it was only a guard's van.

597. With a brake put on for ornament?—With a brake put on for use.

598. What was the tare weight of the van?—3 tons 15 cwt.; no, 2 tons 15 cwt.

599. The weight of the engine was how much?—28 ton.

600. Do you consider that going down that gradient it would be necessary or useful to have a brake van of a greater weight behind?—It would be useful.

601. And do you believe that really a brake van of 2 tons 15 cwt. with this ornamental hand brake was of any use at all behind?—It was not for the purpose of braking the train; it was to close the vacuum.

(*Major Marindin.*) Supposing the vacuum brake had been inoperative, a light van behind would not be much use; supposing the brake was operative all through the train, it would not matter whether the van was a light one or a heavy one.

602. (*Mr. Morphy.*) But supposing it was inoperative, would not a heavier brake van then be desirable. Do not you even think that going down that gradient for security sake it would be desirable to have two brake vans on?—I do not think so with the vacuum brake all through the train and working; the lighter your train the better.

603. For the purpose of avoiding all risk, because there is tremendous danger going down that hill; would it not have been better, and added towards saving the train, if you had a heavy brake van on that would have caused some cohesion to the rails?—As a general rule it would be a good thing to have a heavy brake van.

604. You have not made inquiry as to the tare weight of other brake vans used on other light railways in Ireland?—I have not made any inquiries. I consider a brake van to be any use should be 8 or 10 tons weight.

605. Why was not this 8 or 10 tons?—Because it was not used as a brake van.

(*Major Marindin.*) You can hardly expect Mr. Hickson to answer that. He is not reponsible for the brake vans.

606. (*Mr. Morphy.*) I believe there are other brake vans used by the company?—Third-class carriages with a brake at the end.

607. Are they not heavier?—Yes.

608. And this is the lightest you had?—This was a guard's van with a brake in it.

609. (*Mr. Horgan.*) You had known the guard when he was with your company before it was taken over?—I believe he was with the contractor, but I did not know him until he was taken over by us. He was with Mr. Worthington.

610. At any rate, he was in your employment since the line was opened for traffic?—Some time after.

611. And during that whole time you found him an active, steady, sober man?—I did. I always found him doing his business very carefully.

612. Never got a reprimand?—I think not, not from me.

613. He got promotion?—He got promotion.

614. And never was fined one shilling?—Not that I know of.

615. With regard to this vacuum this man knew perfectly well how to use the vacuum?—He got his instructions, and ought to have known how to use it.

616. He went on the line repeatedly before, and drove this engine repeatedly before?—No; he acted as guard.

617. And worked the continuous vacuum?—He had his gauge in the van; I do not think he touched it before, or had occasion to touch it.

618. Should he not have touched it coming down Glen-na-galt?—No.

(*Major Marindin.*) The guard has no business to work the vacuum brake except in a case of emergency. The valve in the guard's van is so constructed that when the driver applies his brake full power the valve opens of itself automatically; but the guard should not open this unless the driver applies the brakes so far, and then he can assist him by opening the valve himself.

619. (*Mr. Horgan.*) At any rate he knew how to work the register?—Yes.

620. And it is plain there to be seen to work?—Yes.

621. I believe it does not register more than 30 inches?—25 or 30.

622. And anybody can see that from the gauge?—Yes.

623. There is no difficulty in working that in an emergency?—Turn a handle from one side to the other.

624. Anybody with fair experience can do it?—Certainly.

625. So far as you know the continuous vacuum was in perfect working order?—Yes.

626. Could you not see that even after the accident?—You could see where the brakes were and the pistons and cylinders.

627. This engine was a very old one?—No, the same age as the other ones; she had gone through the same work, 1888.

628. It was brought by Mr. Worthington?—Yes.

629. And you do not know how old it was before that?—She was new.

630. I believe one of those trains ran away before, a ballast train ran down this before?—Yes.

631. When was that?—It was shortly after the line opened.

632. (*Mr. Adams.*) After the contractor gave it over?—Yes.

633. (*Mr. Horgan.*) How far did it go down?—It came down to the Junction Station.

634. (*Major Marindin.*) Right over the viaduct?—Yes, it came from the top of the hill down into the station.

635. (*Mr. Horgan.*) Control was lost completely?—Only for a short distance.

636. A most dangerous distance?—Yes.

637. The most dangerous distance on any line in the empire?

(*Major Marindin.*) You must not assume that.

(*Mr. Horgan.*) I suppose it was the merest accident that somebody was not killed then.

638. (*Mr. Adams.*) When did that thing about the ballast train happen?—Shortly after the line opened.

(*Mr. Horgan.*) It was opened in March 1891, and some time after that this ballast train ran down.

639. (*Major Marindin.*) We better get this finished. Where did it commence to run away from, where did it run to, and how fast do you calculate it ran?—The ballast train was loaded at the top of the mountain, and instead of bringing the train down with the engine in front the driver let the train drop down in front of him, and the vacuum was not connected with his engine, and the train got a little the better of him for a while.

640. When did it commence to get the better of him?—About half-way down hill.

641. And what was the speed going over the viaduct?—About 30 miles an hour; the driver is here.

642. (*Mr. Horgan.*) It went past the station?—It went just through the station.

643. Was it not the merest accident that that unfortunate man was not killed?

644. (*Major Marindin.*) Was this fitted throughout with the vacuum brake?—There were two waggons next the engine had not the vacuum on, if he had been at the other end of the train he would have had the vacuum on all the train except the two last. His orders were to go round the train and go to the other end and get in front of the train, and he did not do it.

645. Were the waggon brakes down?—Yes, some of them.

646. (*Mr. Horgan.*) Was any provision made then that a recurrence of this should not take place?—Certainly, the engine should always come down in front of the train.

647. What was the cause of its running then?—I do not know.

648. You said, I think, a while ago that any engine-driver may run down this incline at the rate of 29 miles an hour?—I did not say that. I said you would be quite safe in coming down at 10 or 12 miles an hour.

649. You knew Graves?—Yes.

650. He was an experienced engine-driver?—He was.

651. I am glad you admit that; he was in your service a length of time?—He was.

652. A year and a half?—I do not know.

653. Graves swears distinctly——

(*Major Marindin.*) Where?

(*Mr. Horgan.*) I have it here.

(*Major Marindin.*) Where does he swear it?

654. (*Mr. Horgan.*) At the inquest. If Graves swore, and he is, you admit yourself, an experienced engine-driver, that a man may not drive this quicker than five or six miles an hour, do not you think he ought to be able to test its capabilities?—That a man may not?

655. If Graves swears a man may not drive there quicker than five or six miles, do you agree with him?—What is to prevent him driving?

(*Mr. Horgan.*) It would not be safe.

(*Mr. Harrington.*) Five is the regulation, and he said he would not like to undertake it at a greater speed than ten miles.

(*Mr. Horgan.*) I am reading from the *Kerry Evening Post.*

(*Major Marindin.*) Is Graves going to be called?

(*Mr. Horgan.*) "He never lost control of the engine and never drove at a rate of more than five miles an hour."

(*Major Marindin.*) Round that curve?

(*Mr. Horgan.*) No, but down the incline.

(*Major Marindin.*) Round the curve probably, he knew that that was the regulated speed round the curve, and naturally told you he never went faster.

656. (*Mr. Horgan.*) It was according to your own admission going at 40 miles an hour?—That is what I calculated it was going at.

657. And no matter what brakes were on it would be only hit or miss whether it would go round or not?—If the brakes were on I think it would make it more dangerous, because it would run into the curve rigid; I would sooner let the wheels turn going round a curve like that.

658. In your opinion the wheels were not turning at all at the time?—I cannot say that.

659. You say the line had been soaped?—On previous occasions.

660. Was not that long after this ballast train ran away?—Yes.

661. (*Major Marindin.*) That ballast train was not fitted with the automatic brake in working order.

(*Mr. Horgan.*) It was so far as the engine was concerned, and surely the engine could have been stopped?

(*Major Marindin.*) But whether the engine would be competent to stop the whole train is a matter of calculation.

662. (*Mr. Horgan.*) At any rate there was no soap on the line, and there was no complaint of it before this ballast train ran away or long after; when did the soap bubble up?—Mr. Parkes has the report of it.

663. You said last evening that the cause of the accident was the reversal of the engine?

(*Major Marindin.*) I think he said that the reversal of the engine contributed towards it and made it more likely to jump; the cause of the accident he attributed to the high speed.

(*Mr. Horgan.*) The very last question you asked him was what was the cause of the accident, and he said the reversing of the engine and the tightening of the brakes.

(*Mr. Adams.*) I asked the question. He said the reversing of the engine contributed towards; it he did not say it was the sole cause.

664. (*Mr. Horgan.*) You said the engine had jumped off, would not the very fact of the reversal of the engine cause it to jump off?—Yes, if it was reversed at that point.

665. Who must have reversed the engine?—Redshaw.

666. Is it your opinion that the engine having jumped off into the river is mainly attributable to the reversion of the engine?—It all depends at what particular point it was reversed.

667. (*Major Marindin.*) You do not mean if he had been going at five miles an hour and reversed his engine it would have jumped off?—No.

668. You say that the reversal of the engine running at the speed it was caused a jumping of the engine which contributed to the accident?—Yes.

669. (*Mr. Horgan.*) You told the baronies, as well as I remember, before the Grand Jury, that this would not entail an expense of more than 2*d.* in the £?—

(*Mr. Adams.*) We had that already. Everybody knows that at these inquiries the people promoting the line say it will cost nothing.

670. (*Mr. Harrington.*) Do you keep a record of the number of times these engines are returned as going off the line?—I do not keep a record; if there is any accident a record is kept of it.

671. But going off the line has been a matter of frequent occurrence?—No, it is not; at first there were several cases of it and one case lately.

(*Major Marindin.*) Can anybody speak definitely as to the number of times an engine has left the rails?

(*Mr. Adams.*) Is there a book in which all the accidents are recorded?

(*Mr. Parkes.*) The correspondence is filed.

(*Mr. Adams.*) You better make out from that file a list of the accidents.

(*Mr. Parkes.*) I do not think it would be possible to do so now.

(*Mr. Adams.*) Why?

(*Mr. Parkes.*) Because the fact of an engine getting off the road has only occurred once and that is a few Sundays ago.

672. (*Major Marindin.*) I want a list of the occasions on which any of these engines, and particularly this engine, have left the line when running. Get it from your books; have it made out.

(*Mr. Horgan.*) And all the accidents, because we say this line is dangerous to life and property and a nuisance.

(*Major Marindin.*) I do not think it will assist me in the slightest degree in finding out why this engine went off the rails, if I am given a record of somebody coming in collision with a truck somewhere else.

673. (*Mr. Harrington.*) I believe some directors or officials of the Great Southern and Western Co. went an excursion on the line?—They went out part of the way.

674. Was that with a view of getting a working agreement or giving through rates?—I do not know exactly the purpose, I know they were invited to go out, and went out part of the way and came back again.

675. Was this question mooted at the time?—The secretary will be able to tell you.

676. Did you accompany the directors when they went on the line?—I did.

677. (*Mr. Adams.*) How many went out?—Seven or eight, and Mr. Bayly.

678. Surely you must know what they wanted?

679. (*Mr. Harrington.*) Do you know what object they went with?—I think for the purpose of looking over the line and making some arrangement. The secretary will tell you.

680. And as the result of that day out they declined to make the arrangement?—I cannot tell you.

(*Mr. Huggard.*) There are through rates in the ordinary way.

(*Mr. Adams.*) Do they give through tickets for passengers?

(*Mr. McCowen.*) No.

681. (*Mr. Harrington.*) Did anything occur at this particular place, did the brake fail while they were on the line?—I do not think so.

682. No failure of the brake or engine?—No; we went up the hill and came down it, but we had two engines, the second engine had to come down in front of the train.

683. State what happened?

684. (*Mr. Adams.*) Did anything unusual happen?—No.

685. (*Mr. O'Reardon.*) As to the power of these engines, is it a fact that a few Sundays before this accident an engine on the Castlegregory system failed to draw her load?—That is a light engine, only 19 tons.

686. She had to leave portion of her load behind her?—I am not aware.

(*Mr. Adams.*) We cannot go into the Castlegregory system.

687. (*Major Marindin.*) Let us get this thing clear as to the super-elevation. As I understand you, the super-elevation, as it is there now, is calculated for a speed of 20 miles an hour?—Yes.

688. And it amounts to between 4¾ and 5 inches?—Yes.

689. And you calculated, I think, 3½ inches, what was that for?—For a different radius of curve, 5 chains.

(*Mr. Harrington.*) I asked the question based on General Hutchinson's report.

690. (*Major Marindin.*) If you calculated that super-elevation for 5 miles an hour it would have been very much less?—Very small.

691. And the fact of the super-elevation being very much greater than it would have been if calculated at 5 miles an hour makes it very improbable that an engine should fly off at a tangent going round the curve.

(*Mr. Huggard.*) Would you ask Mr. Hickson whether there were some rails never moved at all to show that there was no change in the super-elevation.

(*Major Marindin.*) Mr. Hickson showed me on the ground the rails that were moved, and there were some of them that were never moved, and the super-elevation is the same.

(*Mr. Huggard.*) Would you put to Mr. Hickson one question as to Mr. Morphy's point about a heavy brake van, assuming the train had got up to a speed of 10 or 12 miles an hour or more; would not a heavy brake van tend to increase that speed rather than check it?

(*Mr. Adams.*) All these questions are more for Major Marindin.

(*Major Marindin.*) I think you better leave it alone.

(*Mr. Morphy.*) My theory was that if the heavy brake van had been behind it would have prevented the train acquiring that velocity in that distance.

(*Major Marindin.*) Provided the brake did not act.

(*Mr. Morphy.*) Would you mind signing a summons for that witness, Talbot, who will prove the guard tampered with the vacuum. He was examined and made a deposition, but I have no means of compelling him to come.

(*Mr. Adams.*) I am sure he will attend if the police intimate to him that we would be glad to hear him.

Head Constable Francis Cusack, R.I.C., sworn.

692. (*Mr. Adams.*) Where are you stationed?—In Tralee.

693. When was this accident reported to you?—About half-past 5 on the evening of the occurrence.

694. What hour did it take place?—About a quarter to 5, but it is not in this district it occurred.

695. Did you proceed immediately to the scene of the occurrence?—I left at 6 o'clock; I got a horse and car, and brought a party of men with me, and was on the road by 6 o'clock.

696. What time did you reach Camp?—About half-past 7.

697. There was plenty of light then?—Plenty of light.

698. Did you carefully examine the line?—I examined the line there where the accident occurred and up the gradient for 1½ or 2 miles.

699. Did you find any trace of soap or grease or anything of that kind?—None whatever.

700. Or of any malicious or unlawful tampering with the line?—None whatever.

701. Did you examine the place where the accident itself occurred?—Did you find any trace of a bolt having been laid in an unlawful way across the rails?—I saw no mark on the rails indicating any violent contact, and saw no trace of a bolt.

702. You have been a long time in the force?—22 years.

703. Have you been long in Kerry?—I am going on four years in Kerry.

704. From inquiry you made have you any reason to believe that this accident was caused by any unlawful or malicious action of any person?—I do not believe it was caused by malicious action.

705. (*Mr. Huggard.*) Was there rain that evening before you got out?—There was rain.

706. A good deal of rain that night?—On this hill there was a good deal of rain.

707. And another train had passed?—Another train had passed a portion of it down to the village.

708. (*Mr. Adams.*) If it had been in any way soaped you would expect to get traces of it?—Yes; I walked between the rails.

709. (*Mr. Harrington*). Would you have had anything to do with any reports given from time to time to the constabulary at Aunascaul with reference to any outrages on the line?—There are records in the office, and I am sure if wanted the authorities will be happy to give them.

710. And if complaints were made of any outrage there would be a report upon that outrage or any investigation regarding it made in the office?—Certainly there are.

711. Would they pass through your hands?—I saw some of them.

712. With reference to the complaints about the soaping of the line had you any part in the investigation?—I was not here at the time. I was in Killarney for 3½ years.

713. Nothing occurred within your time?—There was a report of a stone on the rails.

714. But about the soap?—That was before my time, and in another district; but if there is any evidence wanted on that point I am sure it will be here.

715. (*Major Marindin*). A stone after the accident?—It was before the accident, but it was a small stone.

716. (*Mr. Harrington.*) A long portion of that line runs along the fence?—This stone was a small one, and I do not think it could be meant to do injury. The stone was placed upon the rails, but I thought it was mere accident. I think it could not be seriously intended; it could not throw a train off the line at all; it was 7 lb weight.

(*Mr. Adams.*) How much a mile did this line cost?

(*Mr. Huggard.*) I think the contractor got something like 3,200*l.* a mile.

(*Mr. Adams.*) Did that include rolling stock?

(*Mr. Huggard.*) It did, everything.

Thomas O'Leary was called.

(*Mr. Horgan.*) I may tell you before this man is sworn that his condition is not very perfect since the accident. His head had been very seriously injured, and from my own knowledge, judging from the instructions he has given me, his instruction are not continuous, and at the time his depositions were made at the inquest he was in a very bad condition, and I was not able at the inquest to represent him or anybody else. Dr. Hayes would not allow me to open my mouth.

(*Major Marindin.*) Mr. O'Leary gave evidence before the coroner.

(*Mr. Horgan.*) He was examined, but I am only telling you the man's condition.

(*Major Marindin.*) Are you in a condition to give evidence or not?

(*T. O'Leary.*) I am at present.

(*Major Marindin.*) If you find you are being unduly pressed or nervous——

(*T. O'Leary.*) I do not think I would be able to bear perhaps a hard cross-examination.

(*Major Marindin.*) If you find you are being unduly pressed let me know.

Thomas O'Leary sworn.

717. (*Major Marindin.*) How long have you been in the service of this company?—Since they opened the line.

718. What year was that in?—About two years, or something more.

719. Were you in railway service before?—No, except in the contractor's time, I was two years with him.

720. And you have been in the habit of working on the line between Tralee and Dingle, or on the Castlegregory branch?—I worked both of them.

721. On the day of the accident, 22nd of May, what time had you come on duty in the morning?—7 o'clock.

722. How long are your hours of work?—Until 7 o'clock in the evening.

723. That would be your regular day?—Yes.

724. What work did you do in the course of the day?—I did a little business in the yard acting as porter in the morning, and then was sent out to act as guard of the special train from Dingle.

725. You began work in Dingle?—Yes.

726. You live in Dingle?—I live in Tralee. I was not acting as ordinary guard for some time. I had resigned about two months.

727. Why was that?—Through the means of my family being in Tralee I should have to stay the night in Dingle or Castlegregory very often, and I preferred to stay with the family.

728. What were you doing during the two months?—Acting as porter in the yard.

729. On this particular day you were working first of all in the yard?—Yes, sir, at Tralee.

730. And then you went with a train to Dingle?—Yes, sir; there were two engines attached to the ordinary train, and I went out as a passenger, having nothing to do until coming back with the special.

731. You were sent away from Tralee as a passenger on an ordinary train to which two engines were attached to bring back a special from Dingle?—Yes.

732. What was the engine?—No. 1.

733. When you got to Dingle did you wait there long before you started back again?—We had a few hours' delay; we started about half-past 1 o'clock.

734. Will you tell me how your train was made up?—Engine first.

735. How was the engine running?—With the bogie in front.

736. Then came?—Seven waggons of pigs.

737. Then came after that?—A passenger carriage.

738. An ordinary third-class passenger carriage?—Exactly, and guard's van.

739. What brake had you on the train?—I had a hand brake and vacuum brake.

740. There was another hand brake on the engine?—Oh, yes.

741. And the vacuum brake was working through the whole train, was it?—Yes, but not starting from Dingle.

742. Tell me where were the passengers riding?—The greater portion of them inside in the passenger carriage, and there was about nine persons with me in the van.

743. Was the passenger carriage full?—It was partly full. I do not know any more could get into it or not.

744. Why did you have any people in the van with you?—They told me they had no room in the carriage.

745. You did not look to see?—I saw it was pretty fairly thronged. The station-master is in charge until such time as the train leaves.

746. Supposing there is room for passengers in the carriage, it is irregular for you to have them in the van?—It is irregular.

747. On starting the train in what condition was the vacuum brake?—It was not attached at all.

748. The pipes were coupled on. Have you had a copy of these instructions?—Yes, sir.

749. Do you know them? Is it your duty or is it not to see that, before starting, "at the beginning of each "journey, the train must be examined to see that the "brake fittings are in good working order and tested, "also that the engine and all the vehicles are properly "coupled and in working order"? In this case you did not see that?—I did, and done it, but the engine-driver would not permit it. He told me he should get it cut off.

750. Tell me the reason the train started from Dingle without the vacuum brake being in working order?—I have no reason only what I am telling you.

751. You better tell me what happened at Dingle. Did you speak to the driver?—Oh, yes; I am after telling you the engine-driver came to me and told me he cut off steam. He wanted steam to get up to the top of the mountain. It was unnecessary for me to have it.

752. Did you ask him to put the brake in working order or not?—Certainly, and he said that I did not want it.

753. I think the shortest plan would be if you would slowly describe all the events in the journey as you went up in your own language?—We started from Dingle about half-past one, and approaching Lispole station the engine commenced to slip. It was slipping for about three-quarters of a mile, I got out when it was slipping.

754. That was in the way between Dingle and Lispole?—Yes. I got out of the guard's van, and went over to the engine-driver, and put some sand on the rails to assist the engine from slipping, and he asked me there why I put on the van, why I attached it to the train. I told him that it was none of my business, that the station-master in charge did it, and to see him about it. We started from Lispole again. We arrived into Lispole station and started again all right.

755. At what time?—About 2 o'clock, I think.

756. You have lost your journal?—I have.

757. From your recollection it was about 2 o'clock?—The book was found, but there was no entry in it. I had a slip of paper, but I did not find the slip of paper. We went on all right. Approaching Aunascaul there is a curve and small incline nearing the station, where we usually take water, and we ran past the station there for about 140 yards.

758. Would you tell me, please, is that station on a rising hill?—It is not; it is on the level, but there is an incline coming into it and a little curve. We backed back into the station again to take water. I approached Mr. Redshaw there and told him to extend the vacuum to the whole train, and he said there was no occasion for doing so. I asked him why so, and why did he run round the curve. He said the greasy rail caused it. I said were it not for the road being made and the points in order, we would come off the road, and I told him to extend the vacuum. He said he would not, that there was no occasion for doing so, and so, therefore, I refused to travel, and then he gave me the vacuum.

759. How did he give you the vacuum? Did he blow the vacuum up with his large ejector first?—I could not tell you.

760. However, you got the vacuum?—I got the vacuum at Aunascaul.

761. To how many inches?—Something about 16 inches or so; I have not a right account of how many inches I had there.

762. But he extended it at all events?—We started again, and went about 200 yards from the station, and the engine commenced to slip and come to a standstill, and backed back again into the station, and started fresh again and got beyond the top of this little rise, and about 200 yards from there again the engine commenced to slip. It was going a length of metals, therefore, and coming back again, and he was going that way for half-an-hour starting, and slipping, and darting about the place. Still, we pulled through until he got to a flat crossing at a place called the Mall, a crossing on the road, and the passengers got out there out of the carriage.

763. You were going so slowly?—We were stopped altogether for about half-an-hour, only just moving backwards and forwards, and when he came to a standstill there the passengers got out of the carriage. Some of them said they would go for refreshments, and more said they would go to take cars. However, Mr. Redshaw, the engine-driver, asked me what was best to be done, and then I asked him what was the matter. So he looked at the motions of the engine and also the works inside the footplate, and got down again and made no reply, and after a short time he said: "I cannot put her either backwards or forwards now." There was a sergeant of Aunascaul, he was on patrol duty, just at the scene of the occurrence. I went down to him and spoke a few words to him in connexion with Mr. Redshaw, that he was looking as if he was discouraged. I thought so, the man looked feeble, fatigued from the hardship of working the train along. So very shortly he started again, and I induced the passengers to come back into the carriage.

764. How near is that crossing to Aunascaul?—It could be a mile. We had a few more stops on the journey. I could not exactly tell the identical spots where we did stop, but I know a certain crossing called Emalough, where there is a flag station, and between that and the Tralee side there is a stiff ascent, and we came to a stop about half-way. I got out of the van and went towards him, and asked him what was the matter or what caused the stop. He said: "If you agree with me to cut off the vacuum, "which is unnecessary for you, it will strengthen my "pressure to gain the top of the mountain." Some discussion took place between us. I, perhaps, not agreeing to cut it off. However, I consented. I told him to get out of the incline on to the level and then

I would cut it off, but not until then. So when he moved from the incline on to the level I cut off the vacuum and got all right to the top of the hill.

765. Do you know what time you left Emalough crossing?—I have no account of that. We had no further stop until we got to the top of Glen-na-galt. We stopped there. It is usually done to put down the lever hand-brake of the waggons, so I got out of the van.

766. Is it an order that all the levers on the waggons are to be put down in that place?—Yes, sir, every one of them.

767. And you pinned them down?—Yes, assisted by Bernard Loughlin, the permanent way inspector.

768. On all seven waggons the brakes were put down?—Yes. I went to Mr. Redshaw and asked him if he was prepared to start that I was, and he said, not for a few minutes, that he wanted to inject water into the boiler. So he did not start for about 15 minutes. We started, I having 17 inches of vacuum.

769. When he was standing at the top he blew up the vacuum again?—Oh, yes, he blew the whistle, and in a few minutes started. I thought he started very sharp for the downhill run; there was nothing like the way other men did. I immediately applied my hand brake, and at the same time could see he had his vacuum fully applied.

770. How far was that after you started that you saw that?—It was between 20 and 30 yards.

771. After he had started?—Yes, sir, because we stopped on a slope west of the incline; there is a level before we come to the right steep.

772. He started very quick, and how soon after he started was it that he put the vacuum on?—Immediately.

773. Full power?—Full power.

774. Your dial went down to nothing?—All round, sir. I thought the start quick for a downhill run, and still I expected a check, and I saw it not coming, but it was more increasing; it increased rapidly every moment, and when about 200 yards from there I was thinking that he could not stop, and approaching Skylough gates where there is a crossing on the county road I was fully under the impression he had lost control of the engine, and on that curve after passing the gates I was on the look-out at the right-hand side of the train, and I saw the engine-driver to look back. I put out my hand and signalled to him three times very roughly to check speed.

775. Could you form any idea of what speed you were going at?—At that point it could be 30 miles an hour. The speed increased every moment to terrible rapidity, and I saw flashes of lightning flying from the motions of the engine-darts, sparks of lightning.

776. That would be from the brakes?—I suppose so.

777. That was from the engine wheels?—Yes.

778. As far as the wheels in your own van were concerned, were they skidding?—My opinion is they were skidding. I forgot to tell you that approaching the gates of Skylough I examined the brakes, put it on and took it off, and it was useless, caused no check, none at all; the rate of speed was too great.

779. But still you are convinced the vacuum brake was on?—On all along.

780. Did you do anything to the vaccum brake yourself?—Not at all.

781. You did not touch it?—I did, going into the wreck.

782. How do you mean?—Where we were thrown off the road.

783. But as far as you have got to this point you have not touched your valve?—Not at all; I knew too well the difference of touching a valve going down an incline. There is a village at Camp and we passed that very quick, scarcely I could see the houses, and at once we were brought into the scene of the disaster.

784. Were you looking out at the time the engine left the rails?—Well, I was not, but I could know from the rate of speed we were going that we could never make the curve. I told the passengers at Skylough that we were all done. We expected our fate at any moment; it was a perfect runaway train.

785. You did not see the engine leave the rails?—No.

786. Could not see whether she toppled over or not?—No; only heard the roar and splash in the river. The van was whirled round and came to a standstill at the parapet of the wall. I was dashed against the side. I had the bolt drawn. Another passenger came in contact with me. I do not know whether he was trying to get out. I got out and was thrown about 20 feet to the bottom. I was thrown down the slope. I saw all the passengers in a heap at one end of the carriage, screaming terribly at the time.

787. That is the carriage in front of you that was thrown down at one end?—Yes.

788. Your van did not leave the rails?—No, it remained against the parapet. The passengers in my van went to the help of the others. I ran to get help, and the first I met was a policeman, and I shouted to him that we were all dead. I ran across to find some more.

789. More people to help?—Yes, sir.

790. There, as far as the incident is concerned, your evidence ends. Do you know how many of these passengers in the carriages were injured at all, did you hear?—I did not—the majority.

791. Were any of those in the van with you injured?—There could be nine or more.

792. Were any of them hurt?—There were a few.

793. In what way?—I did not exactly see.

794. What hurt them; were they thrown down?—They were thrown down inside the van. I was thrown down myself and cut.

795. The policeman being there, and you having gone for other assistance, what did you do yourself?—I immediately thought of the 3.30 being due at the time.

796. You thought that the 3.30 was coming behind you?—Yes, sir.

797. What did you do?—I met a little scholar boy on the road, and I handed him a red handkerchief in his hand to keep the county road and check the engine-driver. I had the danger signal. I thought he would check the engine-driver, and I would not trust him with the danger signal.

798. You made your way back along the line?—I did not go far. I had not gone three yards from where the accident took place and I met a boy named Michael Griffin, who was some time in the company's employment and got dismissed for some reason I do not know. I gave him the flag and told him to go along the line. I knew him to be a competent man and the engine-driver would know him, and so he did and stopped the train.

799. Did he go back?—He did.

800. And do you know of your own knowledge he stopped the train?—Yes, about the village of Camp.

801. You know that for a fact?—Yes, I went back afterwards.

802. Please tell me, had your engine-driver a staff?—He had only a ticket.

803. And the engine-driver that came behind you had a staff?—Yes.

804. Are you in the habit of working that line with a staff and ticket?—Yes, sir, working special trains.

805. Are you aware—I do not suppose it has much to do with you—but are you aware that that is entirely opposed to the conditions on which the line is opened; are you aware that the undertaking under which that line is worked is that no tickets shall be used?—I did know it at all.

806. That will be for somebody else to explain. You do not know that tickets are forbidden?—No.

807. Do you know anything about block working yourself?—No.

808. The first time, as I understand you that you

yourself personally touched the brake handle or the valve in your van was very shortly before the accident?—I was going into the wreck.

809. And it would not be true to say you opened this valve and kept it opened all the way down the incline?—I would not do it for all the wealth in England.

810. You know that when the driver applies his brake very suddenly your valve flies out?—Yes, sir; you mean the pin.

811. The valve of your brake?—It flies up immediately.

812. And then did it fall again?—No, it remained up all along.

813. You did not touch it yourself?—Not at all.

814. Have you been in the habit of working with this man Redshaw, driving at all?—Yes, a few times.

815. Have you ever on any other occasion had anything like a runaway?—Never in my life, often brought down heavy trains in the dead of night.

816. At what speed is it customary to go round that curve?—We should go very slow, 4 or 5 miles an hour.

817. What speed is it customary for trains to be running down the incline from this level crossing to Skylough; what speed do trains generally run at between Skylough and Camp?—We could run very close on 12 or 13 miles an hour.

818. And you are convinced in your own mind that that brake was on the whole way down the incline?—Unless he might for a moment take it off and put it on unknown to me when I was looking out.

819. You did not see it?—No. I examined it several times and saw it continually on, and during the time I was examining it I never saw him to touch it.

820. What did you do to your brake just as the train was coming into the wreck?—I caught the lever and took it off and put it on, just directly at the scene.

821. You could not do much with that?—It did not decrease his speed.

822. You had no power over the releasing brake?—I did not intend releasing it, but I do not think it diminished his power for a second.

823. (*Mr. Huggard.*) We are all agreed that this man did his work very admirably so far as he could. Did I understand you to say that at Lispole you had a conversation with Redshaw about the vacuum, and his giving you the vacuum?—Not at Lispole.

824. Was it at Aunascaul you said he would not have run past the station if he had the vacuum?—I did say that.

825. And that he replied "no, it is no good at all on this occasion"?—Yes, sir.

826. What did he mean by that?—The greasy rail he meant was the cause of it.

(*Major Marindin.*) Mind you, he had not the brake in use at that time; it was not operating at all. What he meant was that there was no use in having the brake on going up the hill, in which he was greatly mistaken.

827. (*Mr. Huggard.*) I do not think that is so. I think the impression I got from the answer was that the brake would not assist him the rail was so greasy. You had had the vacuum brake on before that time, and it had been taken off at Lispole?—No, I had not the vacuum brake on at all that day until I came to Aunascaul.

828. (*Major Marindin.*) Had you not it on the journey to Dingle?—Yes, but I was not in command, I was a passenger.

(*Mr. Harrington.*) And there were two engines on.

829. (*Mr. Huggard.*) As a matter of fact was the rail in a greasy condition this day?—The worst I ever seen in my life during my experience on this line.

830. And I understand your experience is very nearly four years on this line?—Yes, sir.

831. And you never before had a runaway train?—Never.

832. Is it your experience of Redshaw as a driver that he was a competent driver?—I got never any cause to be alarmed about him.

833. Did he frequently drive you?—A few times.

834. And you never had any complaint to make?—No, never during the time he was in the run with me.

835. He was the head man in the company's employment, over the drivers?—Yes, he was the headman.

836. In fact he had the position of a head driver, I suppose?—I could not tell you that.

837. As far as you could see he always drove his trains properly?—On the occasions he was out with me he did.

838. Could you form any idea as to the period of time it took you from the top of Glen-na-galt to the moment of the accident?—It could be something about four minutes.

839. (*Major Marindin.*) It must be more than that. You were not running 60 miles an hour. You know it is three miles?—That is my opinion.

840. (*Mr. Huggard.*) You say that in your opinion the start was a bit too quick.

841. But when he got 20 or 30 yards beyond the start he applied his vacuum brake?—Immediately after starting his train on the level he applied his vacuum brake.

842. What I want to know is this: assuming that the start was a violent or jerky start, or too quick, did not Redshaw act perfectly properly in your opinion in applying the vacuum at the time he did?—That was his proper place to apply it, but then not to leave it continually on; take it off and put it on would immediately bring the train to a check, but leaving it constantly on was useless.

843. In your opinion if a man applied his brake to the full extent that he could at 20 yards from the start, should not that bring the train to a standstill altogether?—No; from the start he made from the bank it was impossible for him to stop.

844. Was not that on account of the greasy rail?—It would take him some time before he could do so from the hard start he made from the top of the bank, and instead of doing that it went quicker, brought on no check at all.

845. I ask if a man with 18 inches of vacuum shown on your brake?—Not fully 17.

846. Supposing he applies his vacuum to the full extent, should not that in a reasonable distance, 50 yards, bring the train to a complete standstill on an ordinary dry day?—Yes, in certain conditions.

847. Is not the way to account for it this, that the rail was so greasy that it could not hold?—That, added to the start from the top of the bank being too quick, both together acting, he had no chance to stop it.

848. When you say the start was too quick, over what length of ground did it take to get up this start; a man does not start of a sudden quick?—Yes, of a sudden, from the identical spot where he started.

849. How many yards had he gone before he got a speed of 20 miles?—He could have gone very close on a couple of hundred yards.

850. But long before that, according to you, he had put on his brake?—I am telling you where he applied the brake at the start.

851. You must not think I am hostile, I am only wanting to get your ideas?—I am not even suspecting it, and if you did you are welcome to anything you like to say.

852. At any rate, you say no driver could do anything else except apply his brake as Redshaw did?—I will not answer that; other drivers could do other things.

853. I mean to drive properly; you say Redshaw did what was perfectly right in putting on his brake?—Certainly, that was a proper thing to do; but then to work it properly afterwards was another thing.

854. And he had told you that morning he did not put much faith in the vacuum brake on account of the slippery rail?

(*Major Marindin.*) He did not say that at all. He said it was not much use.

(*Mr. Huggard.*) Would not help him at all; it was no good on this occasion, which he interpreted to mean because the rail was slippery.

855. (*Mr. Harrington.*) With reference to this train going out in the morning, I understand that as a matter of fact this engine did not bring out any train in the morning?—No, sir, there were two engines went out attached to the ordinary train.

856. As a matter of fact, those carriages which it had to bring back were not brought out in the morning at all?—No, they were in Dingle.

857. So the journey out of the engine was no test of its condition, its efficiency at all?—I could not tell you that; they might have tested the engine unknown to me.

858. It did not carry the train out?—I suppose it took out portion of the train, there was another engine.

859. (*Major Marindin.*) They were both working probably?—Yes.

860. (*Mr. Harrington.*) Are you aware that that engine had been undergoing repairs on the Saturday night?—No, sir, I am not aware of that. I know nothing of the working of the engines.

861. You acted before as guard of these different trains?—I did.

862. Did you act frequently?—I was on in the ordinary regular run for about twelve months.

863. During that time did you carry a staff?—I always carried the staff on the ordinary trains.

864. Did you ever go on one of these special trains?—I did not go with any special until I resigned being guard, that was the first time I went on specials to my knowledge.

865. Did you go on any special from the time you resigned being guard, which was about two months before; had you gone on specials?—Oh, yes, sir, I had.

866. Can you recollect whether it was your custom to have a ticket and not a staff on these occasions?—Well, the ordinary train——

867. I am not speaking of the ordinary train?—I must speak of it in order to answer the question, in case of a special going from Tralee to Dingle in the morning we would have to send the ordinary train by ticket and leave the staff for the special.

(*Major Marindin.*) I am going to put Mr. Parkes into the box again on that point.

(*Mr. Harrington.*) My attention is directed to a paragraph in Major-General Hutchinson's report. He says the company will also have to give an undertaking as to the proposed method of working the single line, which method is to be the one-engine system, the line being divided into sections with a distinct staff for each section, such staff always to be carried on the engine.

(*Major Marindin.*) I have here the original undertaking given by the company.

868. (*Mr. Harrington.*) You went out as a passenger and not in charge of the ordinary train?—Yes.

869. Do you know in what capacity Mr. Redshaw went out?—I have no idea.

870. Did he travel with you?—No, sir, he did not. He travelled on some one of the engines. He might be driving coming out for all I know.

871. But going out there was at all events another driver with him?—Yes.

872. When you started from Dingle who made up the train?—The porters in Dingle.

873. Not under your directions?—No, sir, but under the station-master's directions.

874. What did you understand was the point of Mr. Redshaw's question to you later on as to why the van was attached, what was his objection to that particular van?—I thought it was thinking it too much load when the engine was slipping.

875. (*Mr. Adams.*) Did you ever see trains going without a van?—Never, sir.

876. (*Mr. Harrington*). You do not know whether his observations might not apply to another van, why there was not a van instead of that?—Yes, he thought the third-class carriage that was on was the guard's van, because in this carriage there is a compartment for a guard.

877. So that there was a van in addition to that?—He thought there were two vans.

878. You knew this No. 1 engine?—I know No. 1 well.

879. You were on the line before it was opened for traffic?—Yes, sir, I was.

880. Could you tell me when you saw No. 1 engine worked before, or when had you taken any journey with it before this day?—I have no memory of it.

881. Can you tell me whether that was the engine attached to the special that you drove before that?—I could not say that.

882. I think you told us that the first place you began to slip at was at Lispole?—Yes, very near to Lispole Station.

883. You slipped, I believe, then for a considerable time?—About three-quarters of a mile.

884. And I believe you told us that you yourself got out to apply sand to the line?—Yes.

885. Can you tell us why the sand was not applied from the engine?—Very often it used, and more times the tubes would not work, but I could not say that that was the fact on this occasion; at least if the tubes were working at that time perfectly I would have had no occasion to put on so much dry sand as I did.

886. I believe it was in your hat you took the sand?—In my hat and hand, every way I could take it.

887. Where did you get the sand?—Out of the fences at the roadside, tough gravel.

888. It was not out of the sandbox on the engine?—No, sir, I could not get up to the box on the engine.

889. (*Major Marindin.*) Are those engines fitted with tubes for sand at both ends?—I do not know.

890. (*Mr. Harrington.*) At Lispole you slipped very considerably?—Yes.

891. Where did you stop next?—At Aunascaul.

892. And you have described here that entering Aunascaul he ran beyond?—Yes.

893. He was not able to check it evidently?—No, sir.

894. Had he the brake on at that time?—He had not the vacuum brake.

895. I believe there is no question of the sobriety of the poor man who died?—Yes, he was a very sensible man.

896. You saw him yourself with all this terrible struggling up the line?—I did.

897. The engine stopping, starting again, going about the length of a rail, backing again, making another start, stopping half an hour; have you any doubt on your mind that he had no power at all over that engine?—He did not lose any conscious over her there, she did not get out of control of him.

898. How can you account for the fact?—The road was very greasy that day.

899. Do you think the greasy character of the road would account for running a short distance, backing, making an endeavour to run again; do you think the greasy condition of the rails would account for that?—It originated from that, it was from that it came first.

900. How do you account for his telling you that it would not go backwards or forwards, for, remember, it had gone over the greasy portion of the road then?—I was thinking he might not have pressure to release the vacuum at the time properly from the wheels.

901. Did you make him any suggestion?—I did not. I would not be so foolish as to make it to a man of his qualifications, such a great machinist.

902. But you had your own opinion about it?—That was the opinion I formed about it, that he had not sufficient pressure to release the vacuum.

903. That was coming up?—No, but at the flat crossing at the Mall. That was the idea I had that he had not sufficient pressure to take off the brakes.

904. Did he get that later on?—After a short time he got sufficient power.

905. Supposing he was coming down that steep gradient to the curve, and the same thing occurred as occurred at that level, and he had not sufficient pressure, would all this occur, and the train become unmanageable and run away with him?—He had 17 in. vacuum at the top of the hill. And I consider that was sufficient to bring down the train.

906. What vacuum had he when the accident occurred?—Once the vacuum was on I could not tell the strength of it.

907. (*Major Marindin.*) At the time of coming up the hill he had no vacuum in connexion at all?—He had for a portion of the way between Aunascaul and Emalough.

908. But at the place where he was slipping so he had no vacuum?—No.

909. Then after he once applied it at the top of the hill the guard could not tell then what vacuum he had left.

910. (*Mr. Harrington.*) Mr. Huggard asked you whether the driver had done all he possibly could. You said other drivers might have done other thing. To your mind was there anything which might have been done to stop the train which was not done?—I could not say that. He may use his own judgment to the best of his ability. It might have been different with other men.

911. (*Mr. Adams.*) Is there anything you can suggest?—There is. I did not see him work the vacuum, release and put on, it was continuously on all along. Still, while I was on the look-out he could do it.

912. (*Mr. O'Reardon.*) In the course of your experience as guard have you ever known a start from the top of Glen-na-galt at such a speed?—Never in my life.

913. (*Mr. Morphy.*) When the driver put on the vacuum brake and started it coming down the gradient, did you then apply the lever behind in your van?—I did not do any such thing.

914. I do not profess to be a great expert in the matter. I may be floundering——

(*Major Marindin.*) He has said distinctly he did not touch it.

(*Witness.*) I am after swearing that over and over again.

915. (*Mr. Morphy.*) Is there such a thing as a lever in your van with the words "brake on" and "brake off"?—Yes.

916. Did you touch that?—No, but at one given point going into the wreck.

917. Did you put it on before starting down?—I did not.

918. Did you swear before the coroner you did?

(*Mr. Adams.*) Where are those depositions?

(*Mr. Morphy.*) Whether they appear on the depositions or not, I am speaking from recollection of my own; the coroner may not have taken them down.

(*Dr. Hayes.*) I did not take all the depositions in full, only what I considered necessary (*depositions produced*).

(*Mr. Morphy.*) Whether it appears or not, I think you will permit me to ask these questions.

(*Mr. Adams.*) The coroner is not doing himself justice in saying he did not take them in full; he has taken an enormous mass. Does it appear in any newspaper report that he said this?

(*Mr. Harrington.*) There is nothing like it. I am afraid there is some confusion about the hand brake.

(*Mr. Morphy.*) He first said it on his direct examination. I am now putting my recollection, and when I proceeded to comment on it, O'Leary saw the pinch of it and tried to retract, but his first statement was backed up afterwards by the statement of James Talbot, who was in the van at the time. Unquestionably he wanted, rightly or wrongly, to get out of a statement I allege he made before the coroner.

(*Mr. Adams.*) Here is his deposition. "I applied "the hand brake immediately after we started, when "I looked at the gauge I saw he had the vacuum "brake on. I found there was no check to the rate "of speed, it was only increasing every minute, and "when we came to Skylough gate I found he had "lost control of her. Approaching the gate there is "a curve, and after rounding the curve I signalled to "him, and said, 'For the love of God put down the "brake,' he could not have heard me. He looked "back and made no reply; the speed must have been "about 30 miles an hour."

(*Mr. Morphy.*) If it has been omitted from the depositions or reports that would not prevent the matter having been stated, and I only want permission to ask a very few questions on the subject.

(*Mr. Adams.*) Certainly, ask him did he say it.

(*Mr. Morphy.*) If you allow me to state my proposition it is this, that O'Leary made this statement, and if I am wrong in the fact there is no use in bothering the witness about it. He stated below that he put the lever brake on and cannot remember that he ever removed that afterwards. My suggestion is that that would effect the management of the train by the driver.

919. Do you remember Quin being examined before the coroner?—Yes.

920. Do you recollect my asking Quin whether if you had put the lever brake on and had not thought then to move it back, whether that would affect his management of the train. Do you remember my asking Quin that?—I do not remember your asking Quin the question. I have no memory of any questions you asked Quin.

921. Do you mean to say you do not remember that Quin stated that if the guard had put the lever brake on and had not removed it he could not renew the vacuum?—I knew my trade and did it. I am after swearing I never touched my lever handle. I had too much experience.

922. I asked Quin whether if the guard had acted as he said he had acted he would be disabled from moving the train, and directly the driver said he could not renew the vacuum, O'Leary interrupted from the rear of the court, and disputed his statement, clearly showing that he had made the statement originally.

923. (*Mr. Adams.*) Did you say anything from the rear of the court?—I did when I heard you trying to make out that I did not do my duty, because the lever was found open. I did not care how it was found. I would argue the point with you.

924. (*Mr. Morphy.*) Did you hear the driver state that if the lever had been put "brake on" behind, and not afterwards removed, he could not renew the vacuum?—I do not remember and still he could have stated it.

925. If he stated it did you contradict him from the rear of the court?—I did at one time.

926. (*Mr. Adams.*) What did you say?—He was speaking about putting on the lever at the top of the bank, I came up and interrupted him, and said I did not put on the lever.

927 Did you, as a matter of fact, that day when the train was running away, did you touch the lever handle?—I am telling you I did going into the wreck.

928. Did you tell anyone you touched it?—No.

929. (*Mr. Harrington.*) He gave an interview to a newspaper reporter, and he was also examined at the inquest, and on both occasions he said it was the hand brake.

(*Mr. Huggard.*) He certainly swore that it was coming into the curve at the accident that he touched the lever, and he also swore that before the coroner.

930. (*Mr. Horgan.*) You were four years on the line?—I was.

931. And during that time you never got reprimand?—No.

932. And were never fined?—You are after hearing that before.

933. At the time of the wreck you had a great job

to prevent some of those in the van from coming out?—One or two wanted to get out and throw themselves out.

934. Had you to have your hand on the door at the time, and also your eye to the vacuum?—No, I was dashed against the side of the van, I had my left hand on the door, I was after lifting the lever.

935. After that you did not touch the lever?—I was touching eternity by that.

936. If the lever had not been up at that time do you think your van would have gone into the passenger carriage?—I cannot give any opinion as far as that is concerned. I done my best to save my own life and the lives of the passengers.

937. (*Mr. Adams.*) Everyone was perfectly sober, is that so?—The passengers were all perfectly sober that I had in the van.

938. And drink had nothing whatever to do with it?—Not a sign of it.

939. (*Mr. Morphy.*) Would you ask this man whether he was in a state of panic?—I am not out of it yet.

(*Mr. Morphy.*) The object of the question was to lay the foundation for his having forgotten to remove this lever.

(*Mr. Harrington.*) I think the evidence of his going back to meet the coming train is evidence of remarkable self-possession.

(*Major Marindin.*) The man did his duty.

On resuming after an adjournment for lunch.

(*Mr. Huggard.*) Lord Ventry is here. He was on the train one day that the line was soaped, and he will tell you what he knows about it.

(*Major Marindin.*) I think we have pretty strong evidence that there was no soaping on the line on the day in question.

(*Mr. Huggard.*) There is no evidence of soaping on the day of the accident, but there is a suggestion that there was a bolt on the line, and there is some evidence to support that contention, and any other acts of violence that led up to dates before that would certainly be relevant to the matter of malice.

(*Mr. Harrington.*) If you think there is the slightest suggestion that malice could have had anything to do with this accident, of course——

(*Mr. Huggard.*) How can they say that until the inquiry is ended.

(*Mr. Harrington.*) I do not want to restrict the inquiry.

(*Major Marindin.*) It seems to me there can be no doubt that the cause of the accident was the excessive speed of the train at that particular point. You suggest it was the bolt that threw the train off; it would have been a very curious thing if the train ran all down hill and found the bolt to throw it off; it would have been an extraordinary incident. I am perfectly satisfied that if that train was running round that curve at 40 miles an hour the presence of the bolt made no difference; it was bound to go off, bolt or no bolt.

(*Mr. Harrington.*) Unfortunately there is a good deal of friction between the inhabitants of the district and the company, and there is a great deal of complaint on my side as to the manner in which the whole thing was got up and worked. I have tried to keep that away from the purview of your inquiry, and for the sake of producing a better state of things between the people and the company I would urge the company not to introduce this.

(*Major Marindin.*) Mr. Adams and I are of opinion that as far as we have gone there is no evidence of malice on this particular occasion; is it worth while going back on something that may or may not have occurred on previous occasions?

(*Mr. Adams.*) Major Marindin and I are of opinion that up to the present there is no evidence of any malice; if we are to open this further than it has been opened we must rule that former transaction is a matter relevant to this inquiry; we must then hear all the evidence that is offered by the people of the district rebutting it. Having regard to the opinion that we have formed that this was not a malicious injury we must shut it out.

(*Mr. Harrington.*) I do not know whether you glanced at another inquiry held here about the taxes and the rates, and the special facilities given to certain traders, and passes on the line.

(*Mr. Adams.*) We rule now we will not take any evidence as to this soaping of the line.

CLAUDE ELLERKER sworn.

940. (*Mr. Huggard.*) You are one of the fitters in the fitting shop of the company?—Yes.

941. How long have you been here?—About five months.

942. Do you know this engine, No. 1, the engine of the accident?—I do, sir.

943. Were there any repairs done to that engine immediately previous to the accident?—Previous to the accident the brakes were adjusted in the morning previous to going out.

944. (*Major Marindin.*) That is, your brake blocks or leverage?—Yes.

945. (*Mr. Huggard.*) On the Saturday before Whit-Monday did you put some springs on the engine?—I put one spring on.

946. I suppose she was brought into the workshop for that purpose?—She was, and lifted.

947. Lifted off her wheels?—No, to take the tension off the springs. One new spring on the right trailer.

948. And you looked over her to see what else was necessary?—No, I was only in for that one object.

949. And then she did not leave the shop until the Monday morning, and before leaving the brakes were adjusted?—Yes, to the satisfaction of the superintendent.

950. At the idquiry before the coroner you said you travelled on the engine to Dingle and the vacuum brake worked well. Was that the morning of the accident?—It was.

951. We were told by another witness that there were two engines steaming the train to Dingle; is that correct?—Quite correct.

952. (*Major Marindin.*) Was this the leading engine?—Yes, No. 1 was the leading engine.

953. Your engine had vacuum pipes at both ends?—Yes.

954. So that the vacuum was worked by both engines?—Yes.

955. Which engine was in charge of the train?—The leading engine.

956. (*Mr. Huggard.*) Was No. 1 the leading engine going to Dingle?—It was.

957. And you were on the engine?—Yes, the special engine.

958. There was no slipping or falling back or sliding?—Not the slightest.

958*a*. In your opinion was that engine in good working order that day?—It was in good running order.

959. Did you return with that engine?—I returned with the ordinary.

960. (*Major Marindin.*) That came behind it?—Yes.

961. (*Mr. Huggard.*) How long had you known Redshaw?—Since my employment here.

962. Can you say whether he knew how to drive?—Well, as far as I knew; I would not be in a position to say he knew how to drive; as far as I knew he did.

963. Has he driven you?—Yes, once previously.

964. And he appeared to drive well on that occasion?—Oh, yes, with every confidence.

965. Can you say on the journey to Dingle how many pounds of steam did this engine make?—It varied from 110 to 120; she blows off at 125 lbs.

966. And an average of 120 was made on the outward journey?—Yes.

967. That is a very fair average?—A very good average.

968. Is there a practice in the yard of overhauling engines once a fortnight, or at any stated period?—No; when they require it.

969. How far can they overhaul an engine at the workshops in Tralee?—Completely.

970. You must go into detail; of course they cannot make a new engine or boiler there?—They can repair a boiler; that is a very large question to ask; it needs a lot of explanation.

971. (*Major Marindin.*) You can do all running repairs?—Yes, that is right.

972. (*Mr. Huggard.*) I think you were asked it before the coroner's inquest, how far they could repair the flanges of wheels in Tralee?—Not I; still I know what they could do here; they could repair them here as far as turning is concerned; they could not retyre them, and never have attempted to do so to my knowledge. They can turn them in a circle; that is all that is required here since my experience of the company.

973. So far as you know this engine No. 1, was she a good engine, in good working order?—She was in good running order.

974. We are told that the train was 44 tons; would you say she was capable of pulling 44 tons, given a dry rail?

975. (*Mr. Morphy.*) Downhill?—She is capable of pulling 44 tons if she carries a pressure of from 100 to 120 lbs.

976. (*Major Marindin.*) You say you have been here five months in the service?—Close on five months.

977. Where were you before?—In England.

978. What shops were you engaged in?—I was engaged in the East and West India Dock Company at Tilbury Docks as locomotive hydraulic fitter.

979. Do you know the dimensions of this engine?—I could only give them approximately.

980. As to the flanges, when was she last turned out?—I do not think those wheels have been turned to my knowledge since I have been here.

981. Have you any record of when they were turned?—I have not.

982. Have you examined the flanges since the accident?—Yes; I saw the trailing wheels where she had been sliding.

983. Have you examined the flanges whether they were sharp?—No, I only examined the tyres.

984. I would like you to do that and to tell me. The leading wheels are small bogie wheels?—They are not constituted bogie at all.

985. They are a separate pair of wheels; are they radial axle or on a pin?—They are radial axle.

986. Do you know when she was weighed last?—There is no means of weighing engines in this company at all; we have no weighing machine.

987. You do not know how her weights were adjusted?—No, we cannot tell whether one side is heavier or the other.

988. And you cannot tell me where her centre of gravity was?—No, we can only form an opinion from putting adjusting screws equally.

989. Do you think she was a stable engine, a steady engine?—Oh, yes, she was very steady.

990. You were in the train that started behind the train that ran off the line?—Yes.

991. Did you go down and examine her afterwards?—No, I ran down directly I heard the noise, and did what I could for the men that were lying there without looking for the engine at all; and when things were a little subdued I had a look at the engine, and found her reversed; the regulator was not opened at all, it was shut.

992. So he had not put on back steam?—No, according to that; but the concussion may have shut that.

993. Do you know much about the working of the brake?—I have a good knowledge of it.

994. Can you tell me the leverage they work at?—About 2 feet from the centre of the brake lever to the centre of the piston or the cylinder.

995. That is hardly the leverage?—The first lever taken into consideration, the one from the centre of the brake lever to the centre of the cylinder is about 2 feet.

996. How much would your piston have to go before it brought the blocks on?—Given one eighth of an inch from the blocks, it would need to come up 3 inches.

997. How far did you set your brakes?—On this engine you can only set one pair of wheels or blocks; there is no adjusting screw between the leading and driving wheels, you can only set the trailing wheels. In the majority of instances there is an adjusting screw between each pair of wheels.

998. On this particular occasion, how far were the brake blocks off the wheels?—They varied, the trailing ones were about one-eighth of an inch, the driving ones about half an inch, and the leading ones one-eighth of an inch. The driving ones wear more than the other two, due to the weight of the connecting rods.

999. As to the carriages, do you know anything about them?—No, there is a carriage examiner for them. You are under a misapprehension about the automatic valve in the van, that does not apply to this company at all.

1000. It is not like an ordinary automatic valve?—No. The atmosphere is let in through the end of a cock, it directs the current of air at right angles to come in, and when you pull it down it will remain so until you put it off, there is no automatic valve.

1001. So that when O'Leary told me that when there was an application of the brake, the valve flew up?—There is no valve at all.

1002. Then he has the application of the brake by turning a handle and not lifting the valve?—Yes.

1003. I shall have to inspect one of those, so that it is not the same as the ordinary automatic?—No, there is no vacuum chamber.

1004. (*Mr. Harrington.*) I observe that you seem rather guarded in the certificate of character you give to this engine; you would not commend it highly as a good engine?—It is a good running engine in good running order.

1005. You would not apply the term good to the engine itself?—When I say the engine it includes everything, boiler and all. I would say it was a good running engine.

1006. Still you would not commit yourself to the expression that it was a good engine?—I think I commit myself when I say a good running engine.

1007. Was it a good engine?—As I said before, it was a good running engine.

1008. (*Major Marindin.*) You would not say it was a first-class passenger engine?—Certainly not.

1009. (*Mr. Harrington.*) You would not like to trust your life a great deal on it?—I have done so.

1010. When?—On various occasions.

1011. You did not trust your life on it back from Dingle that day?—I went out to do repairing work, and if I had done the work I certainly would have trusted my life on it that day.

1012. You were immediately behind?—We were 2¼ hours behind. During that time I did my work, what I went out for. I was engaged on my business at the other engine.

1013. You saw it return?—Yes.

1014. How many times did you travel on that engine?—I did not take particular notice, two or three times.

1015. You saw her in the workshop the Saturday before this accident; she was even in the workshop as late as Monday morning?—Yes.

1016. When she was sent into the workshop, was there any requisition, or is it customary to send a

requisition with her, anything in writing as to the alterations or repairs necessary to be made?—Not to my knowledge; I was just directed to do a certain class of work.

1017. Verbally directed?—Yes.

1018. There is no written record as to her requirements when she was sent in?—No doubt there would be to the locomotive superintendent.

1019. (*Major Marindin.*) It would be in the Running Shed Book?—I fancy it would be in his own office and books.

(*Mr. McCowen.*) It would not come before me.

1020. (*Mr. Harrington.*) Where will we be able to get this?—From Mr. Parkes.

(*Major Marindin.*) Can you produce anything that was sent in to show what the engine was sent in for?

(*Mr. Parkes.*) I cannot, that was the late Mr. Redshaw's business.

(*Major Marindin.*) Would there be anything among his documents or papers?

(*Mr. Parkes.*) I have searched carefully and cannot find anything beyond a few entries in the Running Shed Book, and the last entry is in last March. She was in two or three days before the 22nd of May, and I cannot find any record of what her requirements then were, or of what was done to her.

(*Major Marindin.*) Who sent her there?

(*Mr. Parkes.*) I think he did, under his orders.

1021. (*Mr. Harrington.*) She was in until this morning; there was an absolute necessity for running her out on the special train. Was she sent in for things that were not completed, and was she sent out before these things were completed? You do not know, as far as you are concerned yourself, how extensive were the repairs for which she was sent in?—No, I do not know what she was sent in for.

1022. You only know what you did to her yourself?—Yes, I know how she stood when she went out.

1023. You have no knowledge of what she was sent in for?—Not the slightest.

1024. Who communicated with you with reference to her?—Mr. Redshaw.

1025. What did he tell you to do?—He told me on Saturday night; she came in on Saturday morning.

1026. Nothing was done until Saturday night?—Just before mid-day he told me to see about getting a new spring, and have a look at the rest to see if they were all right as she was going out special on Monday. I got under her and examined her, and told him that one of the spings required to come down, that the buckle had shifted.

1027. That was an examination by yourself and not by Mr. Redshaw?—What he told me.

1028. Mr. Redshaw did not direct your attention to a spring and say, "Put a spring on," you yourself went to see what was required, and found she required a spring?—Yes. He said to me, "There is one of those "springs wants altering; she wants a new spring; go "under and see which one it is, and see if the others "are all right." I went underneath the engine and examined them with my hammer, and I found one of them required to be replaced. He told me, "You had "better get a couple of men and put a new one in." Saturday being a short day, I had not it finished, and went home, and he sent word for me to come back and finish it as it was going out, I understood, on Sunday. I finished it about half-past 9. I came in on Monday morning, and he told me the brakes required to be adjusted, and under his supervision I adjusted them. It is necessary to get underneath, and have somebody outside, else you would have to come out and see that they were correct, and he stood outside while I was underneath. All I did was a matter of screwing them up to his satisfaction.

1029. On Saturday when the engine was sent in you were told nothing about brakes?—Not the slightest.

1030. When Mr. Redshaw told you the brakes required adjusting, what did he say?—He said, "You will need to adjust those brakes."

1031. What time was that?—Approximately, about half-past 7.

1032. And the engine left the station about what time?—Somewhere about 10 o'clock; it may be 10 minutes past.

1033. He did not draw your attention to what the nature of the adjustment was?—Oh, no.

1034. He left it to yourself to adjust the brakes?—Yes.

1035. What did that adjustment consist of?—In putting blocks close to the wheel so that the piston of the vacuum cylinders will not have to be raised so high until the blocks are close to the wheel.

1036. Was that because they had been worn?—Yes, it is due to the wear.

1037. And you brought them back then, the same blocks?—The same blocks.

1038. How much of an alteration then did that make in the blocks; how far were they from the wheel when you commenced your readjustment, and how near to each wheel did you bring them?—You could only adjust them to one pair of wheels.

1039. You had no power of adjusting them to the others?—Not the slightest.

1040. Did any readjustment at all take place with regard to the others?—They are adjusted equally, but the driving blocks always wear more than the leading and trailing, due to the weight of the connecting rods, and there is no means of bringing those as close as the other pair of wheels, unless there is an adjusting screw between them, which there is not on these engines.

1041. When you made the alteration in the first pair you were able to make no alteration in the others?—Not the slightest.

1042. By adjusting those blocks on the first wheels you made the blocks on the other wheels practically useless?—Not the slightest.

1043. (*Major Marindin.*) What I understand you to mean is this, in some engines, say one pair of wheels has worn more than another pair, you can adjust those, put them all at an equal distance from the wheels, but in this case he must adjust one block, and that will bring the others up to a certain amount; they are all brought up to the same, but still one will be standing further off than the others. The measure of adjustment you can make is the amount on the least worn pair of blocks?—That is quite right.

(*Mr. Harrington.*) It would seem to me as if the evidence of the witness had been pointed to quite a different state of things, and as if, after adjusting blocks for the driving wheels to make them efficient, he had no means of bringing the blocks of the other wheels to bear on the wheels and make them efficient.

(*Mr. Parkes.*) You cannot block one pair without blocking all three because they are connected.

(*Major Marindin.*) Supposing the blocks on one wheel were standing half an inch, and the blocks from another pair were standing one inch off, and he wants to bring them up to a quarter of an inch, he can bring the least worn ones to a quarter of an inch, but that would not bring the others up to be only quarter of an inch off.

1044. (*Mr. Harrington.*) And, therefore, did they not stand a full half-inch away from the driving wheel?—I could not say that; my eye would not be so accurate.

1045. Did they stand away so far that they would not be brought on the driving wheel?—They would be brought on the driving wheel, but not with the same force as the other ones.

1046. They were not so effective?—They could not be so effective as the other ones.

1047. (*Mr. O'Reardon.*) Was not this engine under orders for a thorough overhaul?—Decidedly not.

1048. When would she be in the ordinary course overhauled?—Directly we finished an engine that was in the shed then she was the next engine to be thoroughly overhauled.

1049. You are aware of that incline at Glen-na-galt?—Yes.

1050. If this engine were going at a speed of 30 miles an hour and were pulled up suddenly by the vacuum brakes, would not that cause a strain on the brakes and make them ineffective?—No, I think not; the only thing it would do it would have a tendency to lift the train.

1051. (*Mr. Morphy.*) Do you remember me asking you a few questions at the inquest?—I do.

1052. Do you remember me asking you about the vacuum brake?—I do not; you asked me very little about the vacuum brake.

1053. Do you remember getting into collision with O'Leary, the guard?—No; you mistake the witness.

1054. (*Mr. Huggard.*) If the brake affected the trailing wheel, would it not be necessary also that the driving wheel would be blocked; are they connected by a connecting rod outside?—Inside.

1055. What we see outside the wheel?—That is not the brake rod.

1056. If one wheel did not turn, the others would not turn?—If one did not turn, none of them could turn.

1057. (*Mr. Harrington.*) Still, if you could put a brake on all it would be better?—Not the slightest doubt that the brake was on all or she would not have skid.

JOHN DOWNIE sworn.

1058. (*Mr. Huggard.*) You are also a fitter employed by the Dingle Company?—I am.

1059. How long have you been with them?—Since November.

1060. And all that time working in the fitting shop or workshop?—Yes.

1061. You know this engine No. 1?—I do.

1062. Can you of your own knowledge say when last that engine got a general overhauling and touching up?—Fully two months ago.

1063. That would be about the beginning of April?—About that time.

1064. Was she brought into the workshop at that time for some days?—She was.

1065. Do you remember what was done to her?—All the rods were taken down, and the brasses were closed and recentred, put up again, and any other little things that was wanted to be done was done to it.

1066. How long was she in the workshop at that time, do you remember?—As near as I can remember she was in about three days; I think it was either three or four days.

1067. When she was turned out that time what condition was she in?—She was considered by Mr. Redshaw, our loco. superintendent, to be in a good condition.

1068. Before an engine was turned out for work, out of the workshop, did Mr. Redshaw inspect it?—Yes.

1069. And in a kind of way pass them as fit for use?—Yes.

1070. Was there any running test applied before they were sent on a journey?—On some occasions there was; they used to run up the line a bit and come back again.

1071. To see whether they came properly out of the workshops?—Yes.

1072. In your opinion this was all right when she left. Do you remember her being in the workshop the Saturday before the accident?—I do.

1073. Had you personally any connexion with her that day?—No, but I was told that she had to be repaired by Mr. Redshaw.

1074. (*Major Marindin.*) Did he tell you what she wanted?—Not at that time; he told me on Monday morning what had to be done to her on Saturday afternoon, in fact I was there when the last witness was working at it.

1075. In a sort of general way you took a look all over the engine yourself?—No, I did not; it was not my place to do that.

1076. (*Mr. Huggard.*) How long have you known Redshaw?—Fully a year I knew him.

1077. Did you know him before he came to Tralee?—I knew him before he came here; he was in Dundalk.

1078. Was Redshaw a competent man?—As far as I knew of him he was.

1079. Had you been working in the same place as he was before you came here?—I was in the Great Northern Company, the same as he was.

1080. So you had been practically working together for a year?—Oh, no; we had not been working together, in the same company, of course.

1081. And at Tralee in the same yard?—Yes.

1082. You had plenty of opportunities of knowing his powers and experience; do you think he was a competent man?—I did.

1083. Have you ever been with him on an engine running?—I was.

1084. When he was driving?—Yes.

1085. Was he a competent driver?—He might be a competent tradesman, but I would not say a competent driver.

1086. Was anything wrong about his driving?—I could not judge a man's driving. I do not drive myself.

(*Mr. Horgan.*) He says he would not say he was a competent driver.

(*Mr. Morphy.*) Because he knows nothing about driving himself.

1086*a*. (*Mr. Huggard.*) If I asked you in the same way whether Quin was a competent driver, you would tell me you knew nothing about it?—Certainly.

1087. (*Mr. Adams.*) We will ask him what he means, whether he does not give an opinion about Redshaw, or whether he has some reason for what he says. Is what you mean you do not know whether Redshaw was a competent driver or not?—Yes, sir; I could not say whether he was a competent driver or not, because I am no judge of drivers myself.

1088. (*Mr. Harrington.*) You were with him some time, at all events, before coming here?—Yes.

1089. During all the time you knew him in the employment of the Great Northern did you ever know him to drive an engine?—I did not.

1090. You never saw him handle or drive an engine for a mile of the road?—No.

1091. Did you ever hear him say he had driven an engine before he came to Kerry?—I have heard him say it, but I did not know that for a fact.

1092. As a matter of fact, do you believe that he did drive an engine before he came to Kerry?—I do not think so.

1093. Perhaps it would not be unfair to ask you was there a doubt generally among the employées as to the wisdom of sending him as an engine driver; did you hear any doubts expressed or was there any rumour about it?—I could not say was there any doubts, but the rumour was passed once or twice that he should not be there.

1094. (*Mr. Adams.*) I did not catch the nature of that answer?—The rumour was passed once or twice that he was foolish for going out on engines.

1095. (*Mr. Harrington.*) Did not some of the men in the employment on some occasion refuse to go with him because he was in charge of the engine?—I could not say that.

1096. How long have you been at this business fitting?—Eight years and four months.

1097. How long was Mr. Redshaw at it?—I do not know, but as far as I knew he has been at it

all his life, since he was able connected with railway work.

1098. Did you ever run an engine yourself?—Certainly not.

1099. It was not a portion of your work?—Not runing an engine.

1100. And I suppose, long as you might be helping in the construction or repairs of an engine, you would require some special training to run it?—I would.

1101. You would not like to undertake it without some special training?—Certainly not.

1102. In addition to that, even if you knew how to run an engine, you would like to know something about the road you took the engine on?—Most decidedly.

1103. You have been over this unfortunate road and have some experience of engines?—Yes.

1104. Now let me ask your opinion about that road as a practical man, whether at this particular curve you would like to run any engine there?—I would not; in fact I never considered myself safe coming round that special turn.

1105. (*Major Marindin.*) At any speed, at five miles an hour?—I have come round there at more than that.

1106. Would you not consider yourself safe coming round there at five miles an hour?—Certainly I would, but at a quick speed I would not.

(*Mr. Harrington.*) We had evidence from Mr. Hickson himself that it was a recognised custom to run down there at a much more rapid pace.

(*Major Marindin.*) It was not quite that.

(*Mr. Huggard.*) Mr. Hickson said he had himself driven round that curve at a quicker pace, but not with any public passenger train.

1107. (*Mr. Harrington.*) You came down that incline before?—I did.

1108. Could you judge at what rate of speed you came down?—We came about 10 or 12 miles an hour round the curve.

1109. (*Mr. Horgan.*) You did not consider Redshaw a competent engine-driver yourself?—I would not consider him a competent driver.

1110. (*Mr. Morphy.*) That is because you had no knowledge of driving?—Because I have no knowledge.

1111. (*Mr. O'Reardon.*) Did you ever hear of the combined position of fitter and engine-driver, of a man holding the dual position?—I have heard of it; I never saw it.

1112. It would be unusual at all events?—It would.

1113. (*Major Marindin.*) There are plenty of drivers have a training in fitters' shop?—Oh, yes; in fact spare drivers are always in fitters' shop.

1114. (*Mr. Adams.*) Did you ever notice anything yourself about Redshaw when driving to lead you to believe he was not a good driver?—No, nothing to lead me to believe he was not a competent man. I was only once on the footplate with him, but he has driven several times.

1115. (*Major Marindin.*) Where were you working before you came to this company?—With the Great Northern Company.

1116. How long were you there?—15 months.

1117. Where were you apprenticed?—In the Cranston Hill Engine Works, Glasgow.

1118. Do you know where Redshaw was apprenticed?—I think he served his time in the Great Northern Company, I am not sure.

1119. Is No. 1 the same pattern as the other engines?—Nos. 1, 2, and 3 are all the one pattern, No. 5 is a different pattern, and No. 4 is a different pattern; it is the lightest engine of the lot.

1120. Which is the newest?—No. 5; she is $\frac{1}{2}$ inch bigger in the cylinder. She has six wheels coupled and two-wheeled bogie at either end.

1121. (*Mr. Huggard.*) When you talk of this feeling about Redshaw driving an engine among the employées you speak of something that has occurred since the accident, when you say there was talk in the shop of it being foolish of Redshaw to have driven an engine, you are talking of something that has happened since the accident?—No, before the accident.

Lieut.-Col. William Rowan sworn.

1122. (*Mr. Huggard.*) You are the chairman of this company?—Yes.

1123. And have been since the inception of it?—Yes.

1124. You remember the appointment of this man Redshaw?—Yes.

1125. He came to you from the Great Northern Company of Ireland?—Yes.

1126. Did he answer the advertisement by letter or appear personally before the board?—He appeared personally before the board and answered by letter also.

1127. Did he bring a testimonial from his late employers?—Yes. Here is one from the Locomotive Department of the Great Northern Railway Company:—"Dear Sir,—Mr. A. T. Redshaw informs me "that he intends applying for the situation of work-"ing foreman for your railway, and I have much "pleasure in giving him any assistance I can. He "served his apprenticeship in our works at Dundalk, "and has remained in the service ever since he was "out of his time. He is a steady industrious young "man, and ought to prove suitable for the position.—"Yours faithfully, James C. Park."

1128. (*Major Marindin.*) Did the writer of that testimonial know what his position was going to be?—Oh, yes, that he was to be over our locomotive works.

1129. What did you advertise for?—A loco. foreman.

1130. And anything else?—No, not as far as I recollect.

1131. And the reference of this gentleman was as a working foreman?—Yes, to take charge of the locomotive works.

1132. (*Mr. Huggard.*) You considered that coming from the source it did it was a high testimonial?—Yes. This is a letter to Mr. Parkes, the general manager.

1133. Did you, in addition to that, satisfy yourself by a conversation with this unfortunate poor man as to whether he could drive an engine or not?—I asked him would he undertake to drive an engine if required, and he stated he would and was capable of doing so.

1134. Did he state that he had at times driven?—That he had driven engines; I do not think he had ever driven engines as a matter of business, but he had driven them.

1135. We all know that he had never been a driver?—No.

1136. But he had driven in the way locomotive foremen and fitters do drive?—

(*Major Marindin.*) Would you explain what way that is?

(*Mr. Huggard.*) I gather from the evidence I have heard in this case that they do go out frequently to test their own work.

(*Major Marindin.*) Who said that; Elleker, was it?

(*Mr. Huggard.*) There is the evidence of Mr. Parkes that this man had driven 57 times on the line. He had driven officially as driver three times on the Dingle line, 27 times on the Castlegregory branch, but he had also driven another 30 times over the line when he was not officially driver for the purpose of testing brakes and other work.

(*Mr. Harrington.*) I think upon these matters, as there is a question of the competency of this man, we should have more direct evidence than Mr. Parkes, because it was a matter of speculation; he gave a general guess as to 27 times, and spoke of three times. I assume they have a means of testifying by their time-sheets the different times this man went out in charge of an engine.

1137. (*Major Marindin.*) Perhaps Mr. Parkes can give us more definite information on the subject. When the locomotive foreman goes out to test these brakes does he take the engine out himself or have a driver with him?

(*Mr. Parkes.*) He would have a driver with him as a rule, I have known him to take an engine out without a driver.

1138. The practice would be that he would go out on the engine with a driver and see that the work had been properly done?

(*Mr. Parkes.*) Quite so.

1139. (*Mr. Huggard.*) So far as you knew there is no question but that Redshaw was a thoroughly sober man?

(*Mr. Adams.*) Oh, that is admitted.

1140. (*Mr. Huggard.*) So far as he came under your observation was he a competent man for his work?—He was a very intelligent man, and seemed to understand all about an engine, a great deal better than I did of course; but I was continually in the shop and asking questions about everything I could see there, and getting all the information I could from him.

1141. You could give no opinion yourself as to the number of times he drove over the line?—No, I have seen him driving a train in from Dingle and Castlegregory both when I have been at the station, but I never travelled in a train he drove.

1142. (*Mr. Harrington.*) Could you show me the advertisement to which that man replied and on which he got his appointment?—I have not got it.

1143. You are very sparse of documents here, I observe; perhaps someone would get this advertisement.

(*Mr. Adams.*) Is it not admitted that the advertisement was for a locomotive foreman only.

(*Witness.*) That is all.

1144. (*Mr. Harrington.*) You had a conversation with this man as to whether he would undertake to drive an engine, was that after he had been actually engaged?—It was the very day that he was engaged and immediately after.

1145. And I suppose he would have been turned back and would not have got the appointment if he said he would not undertake to drive an engine?—I do not think so; he had been accepted by the board of directors at the time and the board was over.

1146. Am I to understand that this man got charge of engines conveying passengers and was entrusted with the safety of the lives of the people without any questions being ever asked of anybody else except himself as to whether he ever drove an engine?—Yes, that is so.

1147. Neither you nor any of the directors to your knowledge ever made an inquiry before this man brought these engines out with passengers, ever made an inquiry as to whether he drove an engine before he came into your employment?—No, I do not know of any inquiry having ever been made.

1148. You have no letter and no record no testimonial from anybody to you that he ever did drive an engine before coming into the employment of the company?—No.

1149. And as a matter of fact nobody in the employment of the company tested him or examined him in any way as to whether he was competent to manage an engine to your knowledge?—I could not say what Mr. Parkes may have done in that way; I did not.

1150. To your knowledge I asked you, you were chairman of the board, and I assume took upon yourself a greater responsibility because of that position I am sure, and from what I know of you I believe you are not a man to undertake responsibility without attending to it?—Well, I did not examine him.

1151. To your knowledge did anybody, or any member of the board, suggest he should be examined before he would be entrusted with the driving of an engine?—I know that he went over the line with the other drivers first.

1152. On the very day on which he came you asked him whether he would take charge of an engine?—Yes.

1153. Then can you tell us why it was necessary to send another out with him; did you believe that he was a man competent to take charge of an engine?—Certainly, when he told me so; but he was not acquainted with our road until he had been over it. No driver would undertake except in a case of absolute necessity to drive over a strange road.

1154. It was a case of necessity that arose here. On this day when he took charge of the engine for the special train he would either have to take the train or the special could not start?—That is what I have heard. I was not aware he had gone out with the engine until after the accident.

1155. Did your hear the evidence of O'Leary?—I heard portion of it.

1156. You heard of the failure of this engine to come up Lispole incline?—Yes.

1157. You heard of its stopping again at Aunascaul?—Yes.

1158. You heard of the attempts to come up, and of putting sand on the line, and the man walking with his hat full of sand and putting it on the line before him, you heard the evidence of its attempting to go on and backing a little, and slipping and shunting for half an hour?—Yes.

1159. What does that bring to your mind, does it bring to your mind a thorough inefficiency either on the part of the driver or the engine?—I would attribute it to the heavy load and the greasy rail. I have known it occur with other drivers previously.

1160. All that?—All that.

1161. I am taking this extraordinary state of facts, the attempt to go up Lispole, the failure at Aunascaul, the stoppage at the Mall, all the people coming out to take refreshments, and to take cars to drive home. I know if my friend Mr. Hussey was there he would, as I heard him remark, take a car and drive home. Do you think the engine was wholly inefficient?—I think she was overloaded.

1162. Then the overloading which rendered her inefficient coming up the hill precipitated her destruction down?—I think it contributed to it.

1163. Do not you think it caused it?—I suppose so. I cannot tell you whether something may not have occurred to the engine going down which none of us can understand.

1164. Do you remember when this engine was taken over from the contractor?—Yes.

1165. Was there a controversy at the board as to the advisability of taking this engine over?—There was a controversy as to the amount allowed by the contractor for putting them in order.

1166. Did Mr. Hussey, Capt. De Moleyns, and Mr. Slattery oppose the taking over of this engine?—Not this engine specially, but the engines used by the contractor.

1167. He had used all the engines; under his contract he was entitled to use them?—We got one engine since the contractor gave over the line.

1168. (*Major Marindin.*) But all the other engines were contractor's engines?—No. 4 had been very little used by him, the others were.

1169. (*Mr. Harrington.*) Can you tell me whether a division took place at that board on the question?—I cannot.

1170. I suppose the minutes would show whether there was a division?—I do not think it would.

1171. There were four engines taken over?—Yes.

1172. Can you tell me what amount was paid to put those four engines in repair?—I cannot tell you

altogether, we got over 1,000*l.* altogether from the contractor, but there were other matters besides that.

1173. Is there anybody who can definitely give us the figure that was got for putting the engines in order ?—Repairs are going on from time to time.

1174. (*Mr. Adams.*) Was there not a sum of money paid by the contractor to the company under the contract to put those engines in repair ?—Yes.

1175. What was that sum ?—I cannot tell you the precise figure.

1176. Was that sum of money spent in putting the engines in repair ?—It was and more, but then they were not put in repair immediately. The principal repairs was the turning out of the tyres of the wheels, and that was not done all at once. We got 1,900*l.* altogether, that included supplying some rolling stock that was not supplied.

(*Mr. Adams.*) Mr. McCowen, find out what was the sum paid by the contractor for putting the engines in repair.

(*Mr. McCowen.*) 10*l.* for engine No 1, and 10*l.* for No. 2, repairing and turning wheels, that was all the Great Southern superintendent recommended to have done to the engine. Mr. Ivatts examined the engines and recommended that these works should be done and said the engines were in satisfactory order.

(*Mr. Harrington.*) Have you any written award of that gentleman's ?

(*Mr. McCowen.*) No. He put it in writing, but it would take some time to get it.

1177. (*Mr. Harrington.*) You have heard now, Colonel, that only the sum of 10*l.* was allowed in respect of this particular engine ; there is another matter I want to ask you, the whole burden of the baronial guarantee and the guarantee for the town of Tralee falls upon the occupiers ?—Yes.

1178. (*Mr. Adams.*) Is not that provided for by the Tramway Acts ?—It does not follow the ordinary company cess.

1179. (*Mr. Harrington.*) I draw your attention to a paragraph in General Hutchinson's report: "The "steepest gradient has an inclination of 1 in 30, and "of gradients between 1 in 30 and 1 in 40 there are on "the main line in all about 8 miles, and on the branch "line 30 chains. The longest unbroken length of "these severe gradients extends for nearly 3 miles, "from 10 miles 66 chains to 13 miles 60 chains on the "main line. The radius of the sharpest curve on the "main line is 4 chains, and on the branch line "5 chains." Now we have it here to-day, and we had it yesterday in evidence of Mr. Hickson, that as a matter of fact the radius at this curve is not 4 chains ?—No, 3 chains.

1180. Would you tell me whether the matter has ever been brought to your notice until we brought it forward at the inquiry here that this radius mentioned is a different radius from what actually exists on the line ?—No, I never noticed it ; but I knew that the radius of the curve was 3 chains, and I knew that General Hutchinson knew it also ; he asked the question on the ground in my presence.

1181. But as a matter of fact in the original report and the copy sent to you 4 chains is given by him as the radius ?—So I heard.

1182. That is a singular discrepancy upon which I say he approved of the curve ?—I was over the line with him and heard him ask the radius of the curve on the ground, and he was told 3 chains.

1183. He goes on to say, "These gradients and "curves are authorised by the Orders in Council." Does that convey to your mind that he considered the gradients and curves upon it were both going very far to endanger public life ?—It implied, I presume, they would be better without it.

1184. That expression of disavowal of responsibility for the line goes very far to convey the idea that there was a danger to public safety ?—It implies that it would be better without them.

(*Mr. Adams.*) It speaks for itself.

1185. (*Mr. Harrington.*) You will observe that in the same report, and with the same knowledge in his mind, as I maintain, he fixes the rate of speed at which trains were to descend this slope ; was that rate of speed always maintained, or did it come to your knowledge that it was departed from frequently ?—Not to my knowledge.

1186. You heard it sworn to-day that trains come down at the rate of 10 or 12 miles an hour ?—Yes, it never came down at that rate to my knowledge when I was in the train.

1187. As a matter of fact when you were travelling in the train were you aware at the time that five miles was the pace at which it was regulated to travel there ? —Yes, I was.

1188. And that it should not exceed five miles ?—It should not.

1189. Your company gave an engagement on which General Hutchinson passed the line, an engagement that this should be worked as a single line with a single staff and in sections ; perhaps I might ask you for that engagement ?

(*Major Marindin.*) Yes. I think that is a matter that will require further explanation, the board of Tralee do not allow single lines to be worked with ticket as well as staff unless it is in conjunction with the block, and the original undertaking by this company was that the line should be worked with an engine carrying a staff only. But a letter has been put into my hand to-day, a copy of a letter from the Board of Trade, which I have never seen before. "Referring "to your letter of the 30th ult., in connexion with the "circular letter from this Department of the 26th ult., "I am directed by the Board of Trade to state that in "view of the limited number of trains run upon the "railway they are advised that an occasional train "may be despatched with a ticket, provided that the "staff is in every case at the station from which the "train is despatched, and further that it has been "first ascertained by telegraph that the previous train "has cleared the section of the line before the second "train is allowed to follow." That is the block system ; that is 13th August 1891. There was some recent correspondence, I understand, about that ?

(*Witness.*) There has, there was a fresh undertaking given lately, which was very much in the terms of that letter, which was not sanctioned.

(*Mr. Huggard.*) It is under consideration at the present moment.

(*Major Marindin.*) I think not.

(*Mr. Harrington.*) They have no means of communicating on this line.

(*Witness.*) We communicate from the junction into Tralee and then out to Dingle.

1190. (*Mr. Harrington.*) You were out on the line after this accident had occurred ?—Yes, I went out the night of the occurrence, and I went out the next morning.

1191. Were you present when the line was being relaid there ?—No.

1192. Did anything come to your knowledge or hearing as to the super-elevation at the curve being in any way altered by the relaying ?—Certainly not, that was one of the points Mr. Hickson and I looked for to see if the rails had been disturbed at all ; there was no depression there and we could find no trace of it.

1193. That is on the assumption that the super-elevation was all right before the accident ?—Yes.

1194. But if my informants were correct in stating the super-elevation was interfered with a considerable time before the accident and had been altered you would not notice it ?—Part of the line had not been altered since the accident ; that was tested yesterday with the part of the line where the new sleepers were put in and the super-elevation was the same.

(*Major Marindin.*) The super-elevation of a great part of the line which was not relaid was almost identical with that further on ; it ran upon from $4\frac{3}{4}$ to 5.

1195. (*Mr. Harrington.*) It was a portion of the duty of the deceased man, Loughlin, to examine the line ?—Yes.

1196. Did it come to your knowledge that he had altered the super-elevation of any portion of the line?—No.

1197. You did not learn of it?—Never.

1198. Perhaps it is a matter that would not be reported to the board?—I do not think it would.

1199. We had evidence that with regard to a portion of the line the gradient had become reduced to 1 in 26; did you hear that portion of the evidence?—Yes, I did.

1200. And you heard that that is practically the same since it was taken over by the company?—Yes.

1201. And it has never been reported to you?—I never heard it until yesterday.

1202. (*Mr. Horgan.*) I see it was not with you that Mr. Park was in communication?—It was Mr. Parkes issued the advertisement as general manager of the line, but it came before the board of directors.

1203. Practically, it was Mr. Parkes had the appointment?—No, certainly not; his advice was asked and probably followed, but it was not he made the appointment.

1204. Those who took this man this day had no practical experience of engine driving themselves?—I should think not, I had not; I know.

1205. And you did not test his capabilities in any way, the five directors, who chose this gentleman?—Not that I am aware of.

1206. (*Mr. Morphy.*) Are you aware that none of the directors of the Great Southern and Western Railway are engine-drivers?—I am not aware that they are.

1207. (*Mr. Harrington.*) Had you any other persons applying for this position besides this man?—About 50.

(*Mr. Morphy.*) If you attach at all any importance as to getting at the truth as to the application of the vaccum brake by O'Leary, the guard, I would ask you to examine a shorthand police reporter who took a note of all the proceedings at the inquest.

(*Mr. Adams.*) Oh, I think not, we have looked at the official report and we have the man's own evidence.

(*Mr. Huggard.*) We must ask you not to accept any such evidence.

(*Mr. Morphy hands up to the court the transcript on which he relies.*)

(*Mr. Adams.*) I may close the incident by saying there is nothing in that inconsistent with what he says to-day.

JAMES TALBOT sworn.

1208. (*Mr. Morphy.*) Were you travelling from Dingle that day in the guard's van?—I was.

1209. Do you remember coming to the top of Glenna-galt hill?—I do.

1210. Do you remember being examined before the coroner?—I do.

1211. Do you know what the vacuum brake is in the guard's van?—I do not know anything about them brakes.

1212. Do you know the lever that is shoved back?—There is a brake overhead and one underneath with a wheel in it.

1213. Did you see the guard move the one overhead?—I saw the guard doing his business.

1214. I am afraid you do not remember what you said before the coroner; do you remember saying before the coroner——

(*Mr. Huggard.*) I beg your pardon now, he ought not to lead the witness.

(*Mr. Morphy.*) Lead a witness who is eminently hostile to me.

(*Mr. Adams.*) We do not know about that; go on now.

1215. (*Mr. Morphy.*) Did you swear before the coroner that you saw O'Leary, the guard, immediately after you started down the hill put on the lever vacuum brake, and that he did not move it afterwards?—I do not know about that, sir; I only swore that I saw him putting on the brake at the top of the hill.

1216. (*Mr. Horgan.*) Twisting it?—Yes, that is all I know about it.

1217. (*Major Marindin.*) You saw O'Leary put on the wheel brake?—Yes.

1218. Did you see him touch the other brake?—I do not know any more about it.

1219. (*Mr. Adams.*) Look here, you must answer the question. Did you see him touch the other brake, the one at the top?—I did not.

1220. Did you ever say you did?—I cannot say.

1221. The inquest was only the other day; you better answer straight; did you say at the inquest you saw him touch the other brake?—I was thrown off the box where I was sitting.

1222. Did you say at the inquest that you saw him touch the other brake?—I did not say it; I am not sure, because I did not take any notice of the man what he was doing.

1223. (*Mr. Horgan.*) You do not know any distinction between the hand lever and the vacuum brake?—I was on the outlook for myself because I thought I would be killed every moment.

(*Mr. Adams.*) You have a perfect right to take any memorandum you have there and examine him from it.

1224. (*Mr Horgan.*) About a mile and a half above where the accident occurred did you hear O'Leary crying out to Redshaw for God's sake to check?—I did, sir, and the guard told us it was a runaway.

1225. Did he make every effort to tell him to check the engine?—He did.

1226. By the hand?—He did.

1227. That was at Skylough gates, about 1½ miles above the wreck?—I do not know where it was.

1228. Did he repeatedly make every effort to get the engine-driver to check the train?—He did; he told us she was a runaway train.

1229. At the same time was he looking at the gauge?—He could be. I do not know.

1230. (*Mr. Morphy.*) When you were examined before the coroner did O'Leary come forward and say that you were not telling the truth; do not you remember that well?—I did not hear him.

1231. Since the inquest had you a conversation with O'Leary?—I had not.

1232. (*Mr. Adams.*) When did you notice the train running away?—From the top of the hill.

1233. Was it running away all down the hill?—Yes.

(*Mr. Morphy.*) Would you allow the sergeant to be examined who took the shorthand note?

(*Mr. Adams.*) The way it stands is this, Talbot says that he did not see O'Leary moving the upper lever at all. If there is any competent witness who can contradict upon oath that statement and say that Talbot made another statement at the inquest, if there is such a witness, of course it is for ourselves to judge whether he is telling the truth.

(*Mr. Morphy.*) Of course I cannot control the police unless you ask him.

(*Mr. Adams.*) Well, we will ask the sergeant.

(*Mr. Huggard.*) For the purpose of making a formal objection I would submit that it is not fair to the company that you should receive evidence in this court which would not be evidence in any court of law. It is probable that the questions that are now being discussed here to-day will be discussed immediately in the near future before a judge and jury in an entirely different court, and it is perfectly plain to anybody that the object that my friend, Mr. Morphy,

has in getting in this side-wind evidence to-day is to make a lever for getting it in another court.

(*Mr. Adams.*) We are not bound by the ordinary rules of evidence at all. This is a court of inquiry, and we are bound to get at the truth by the best light we can. But I entirely disagree with your view that this would not be evidence in an ordinary court of justice; you can always contradict any witness by proving he said something relevant to the issue, opposite to what he says now, at some other time. That has been done over and over again.

Sergeant JAMES JOHN NOBLE sworn.

1234. (*Mr. Adams.*) Are you a reasonably competent shorthand writer?—Of 10 years' experience.

1235. You heard this man Talbot examined?—Yes.

1236. Were you present when he was examined on oath before the coroner?—I was.

1237. Did you take a note of his evidence?—I did.

1238. Have you any statement made by him with reference to the guard, confine yourself to that?—"After passing Skylough O'Leary made the statement, "he said he had no control over the train," he means the driver, "and that she was going mad. I saw him "put on the vacuum brake, he left that on too; I did "not see him remove it; he must have lost his head." Mr. Morphy then asked him:—"How far were you "away from the curve of the bridge when you saw "the guard put on the vacuum brake?—Nearly a "mile, sir."

1239. (*Mr. Harrington.*) Who suggested the words "vacuum brake?"—He was examined by the coroner, it was in answer to the coroner he gave that. A juror asked him then:—"Could he take it off unknown to you?" He answered, "He could not. I was sitting alongside it."

(*Mr. Harrington.*) That shows it was the hand brake he meant.

(*Major Marindin.*) How is this brake handle placed?

(*Mr. Parkes.*) At the end about 6 feet from the ground.

(*Major Marindin.*) What is the pillar brake?

(*Mr. Parkes.*) It is the horizontal screw about 18 inches below that.

(*Major Marindin.*) Where is that in respect to the guard's seat?

(*Mr. Parkes.*) Close beside it.

(*Mr. Morphy.*) Ask has the sergeant any personal recollection of what O'Leary swore before the coroner?

(*Major Marindin.*) I understood that the transcript of the note was put in and handed up to Mr. Adams, and he said he did not see anything incompatible with what he swore to-day, and that closed it.

1240. (*Mr. Morphy.*) Did you hear O'Leary come up at the inquest and contradict Talbot, and say he was not swearing the truth?—I could not swear that from memory.

(*Mr. Adams.*) We have now down what you ask, and it is for us to say what meaning and what value we attach to it.

(*Mr. Huggard.*) Now will you take the newspaper report of what the guard said, the "Kerry Weekly Reporter?"

(*Mr. Adams.*) Even the "Weekly Reporter" is not evidence in a court of justice.

JOHN O'DONNELL sworn.

1241. (*Major Marindin.*) How long have you been in the service of the company?—About two years.

1242. What are you?—A ganger.

1243. Of what length, where does your length of line begin and end?—Ten and three-quarter miles, to the 16th mile-post.

1244. Ten and three-quarter miles is just the other side of the bridge where the accident happened?—On the Tralee side of the bridge.

1245. Then the part where the train ran off, is that under you?—Yes.

1246. How many men have you got in your gang? Three.

1247. How often do you walk over it?—About three times a week.

1248. You do not walk it every day?—Sometimes.

1249. What is your order about that; are you not ordered to walk it once a day?—It is walked every morning by one of the men. I walk some of it myself, too.

1250. Three times a week, and the other days one of your gang walks it?—Yes.

1251. Were you over it the morning of the accident yourself?—Yes.

1252. At what time were you at Camp?—After the accident.

1253. No, but before the accident?—Oh, yes, I walked it in the morning.

1254. At what time were you at this place where the accident happened?—About 6 o'clock.

1255. What was the state of the line then, was it in good order?—Yes, sir, it was.

1256. When was the last time before the accident that you did any work to that part of the line?—About a week before.

1257. What did you do at that place?—I did not do much to it; it did not require it.

1258. What did you do to it?—Just only to pull it.

1259. Pulling curves right?—Yes.

1260. And you left it in good order?—Yes.

1261. When had you the gauge on it last?—I tried the gauge on it too.

1261*a*. At that same time?—Yes.

1262. When you heard of the accident where were you?—I was about a mile and a half from the place to the west.

1263. You came back to it, I suppose?—I did.

1264. And saw what had happened?—Yes.

1265. Did you make an examination of the line?—Yes, I did.

1266. Did you find anything to account for the train having left the rails?—No.

1267. Was there anything in the nature of an obstruction to the line?—I did not see it.

1268. Was the curve in proper order?—Yes.

1269. Did you try the cant on it?—Yes.

1270. What is the cant on it?—Over 3 inches.

1271. Did you examine the line in the direction of Dingle at all, walk up the line?—I did not examine the line ahead of it.

1272. That was not your bit of line?—It was.

1273. Is not the $10\frac{3}{4}$ post close to the bridge?—Yes.

1274. You have nothing to do with the line beyond that?—Yes, to the 16th.

1275. Oh, I beg your pardon; yes, the actual point that the train left the rails was not on your length?—It was.

(*Mr. Horgan.*) He takes in the whole bridge and takes in the whole incline.

1276. (*Major Marindin.*) Did you walk it up?—I walked it up in the morning, and came down that way in the evening.

1277. Did you see anything in the shape of grease or anything on the line?—No.

1278. Did you see anything to indicate that the driver had put sand on the rails?—No, sir, I could not see anything.

1279. What was the state of the rail?—It was very greasy.

1280. (*Mr. Harrington.*) What age are you?—About 20.

1281. That might mean a couple of years more or less, as nearly as you can guess, John, what age are you?—Begor, I could not exactly tell.

1282. So that the ganger that has charge of all this line from the company, and that is supposed to have applied gauges and all these things could not tell his own age. Are you 18 years of age?—I think I am about 20.

1283. (*Major Marindin.*) Where were you born; are you a native of this part?—No, sir.

1284. Where were you born?—Camp.

1285. (*Mr. Harrington.*) Where do you live?—Camp.

1286. Now you saw some work made at the angle, the curve going round the bridge a short time before the accident?—Yes.

1287. Who was at that work; was Mr. Hickson there?—Before the accident, is it?

1288. Before this accident occurred, a couple of days before, there was some work carried on just at the bridge?—No, sir, I did not see it.

(*Major Marindin.*) What he said was that about a week before the accident he worked at this place, and I understood what he did was the ordinary lifting work.

1289. (*Mr. Harrington.*) Was anybody with you?—Yes, there was the men.

1290. What men were with you working?—There were two men from Aunascaul and a man from Camp.

1291. Was Loughlin with you?—No.

1292. Was Mr. Hickson?—No.

1293. What were you doing there?—Just pulling it and looking after it.

1319. What wages have you from the line?—16*s*.

1294. Who was in charge was it you were in charge of the gang?—Yes.

1295. You do not know what you were doing?

(*Major Marindin.*) It is quite intelligible.

1296. (*Mr. Harrington.*) You said something about applying the gauge; do you know what is meant by the cant of a line?—I do.

1297. What cant was there when you were working there?—About 3¼ inches.

1298. Did you measure that yourself ever?—Yes.

1299. How is it at present?—About the same.

1300. Are you sure it was not changed; where you there when the track was being relaid?—There was no change made in it only to put in sleepers.

1301. Would you be surprised to hear it is 5¾?

(*Major Marindin.*) No, 4¾, there is nothing over 5.

1302. (*Mr. Harrington.*) Would you be surprised to find it was that?—No answer.

1303. Were you in charge of the gang?—Yes, sir.

1304. And are all the others younger than you?—No, sir.

1305. Are they older?—Yes.

1306. Who ought to walk this line in the morning?—I walked it that morning myself.

1307. I want to know whose duty was it to walk it; was there anybody whose duty was to walk it every morning?—Yes, a man that comes from Aunascaul side.

1308. And he comes down to his work?—Until he meets us where we are working.

1309. Is he responsible for walking the whole line every morning?—No, he is responsible only to walk as far as we are working.

1310. From the bridge up to meet the man who comes from Aunascaul who does the walking up the line?—I walk it myself.

1311. Every morning?—Yes, sir.

1312. You did not say that a while ago?—I walk it every morning; what the other man does not walk I walk.

1313. Why did you say you went over it three times a week?—For the whole length.

1314. You do that six miles three times a week?—Yes, sir.

1315. Where were you working when the train came down that day?—About quarter of a mile over the top of the hill.

1316. Did you see the train coming up there?—I did.

1317. Did you see it stop at the top of the hill?—No, sir.

1318-9. And you did not notice anything the matter with the train coming up?—No, it came up just the same as any other train.

JOHN DRISCOLL sworn.

1320. (*Major Marindin.*) What are you?—Gateman at Skylough.

1321. How long have you been there?—Last April two years.

1322. What is your duty?—To have the gates open, lowering the signal and have a hand signal.

1323. On the day of the accident where were you when the train passed?—I was at the gate.

1324. You saw it pass?—I saw it coming to the top of the hill. I was inside in the cottage watching it from the window I saw it coming to the top of the hill and stopping there for some time, a quarter of an hour, it might be more or less, and I was watching it closely until it started. I saw some slack steam round the engine for a bit, then it puffed up steam the same as usual. I did not notice anything. I pushed to one side to have the gates open. I saw no change in it, and then it got into the turn, and I could not see it until it got close to the gate, and from what I saw of it I could not see that there was anything wrong.

1325. What speed would you think it was running at?—I could not say, I am no judge of that; but when it came to the gate it passed me pretty fast.

1326. Did it pass you faster than trains usually run?—I do not think a train with such a heavy load passed me so fast. I think lighter trains have passed nearly as fast.

1327. Did you notice any of the men working the train as it passed you?—I do not remember. The guard was at the other side; I could not see him.

1328. Did you see either of the men on the engine?—I forget, I do not think I did.

1329. You could not tell me what they were doing?—I could not account.

1330. The engine was not steaming, the steam was off?—I could not say.

1331. Do you know anything about the brakes, were they on or off?—I do not know anything about that, I do not understand it.

1332. (*Mr. Harrington.*) Trains come down there usually at a good smart pace?—It is not alike they come every time, sometimes they come pretty smart, and sometimes slow.

1333. You could form an opinion what five miles an hour would be, a good fast walk?—Yes, sir.

1334. Do you often see them coming down faster than that?

(*Major Marindin.*) That is not the point; they would be entitled to go 12 miles at that.

(*Mr. Harrington.*) There is a crossing at this place where he is restricted to five miles an hour.

(*Mr. Huggard.*) At this particular place he would be entitled to go 25 miles because it is protected from the road.

(*Mr. Harrington.*) "At the oblique crossings of all roads when approached on the level or on a falling gradient," 5 miles an hour.

(*Mr. Huggard.*) That applies to the tramway portion of the line; this is the railway portion.

(*Major Marindin.*) Immediately at this side of it he would be entitled to go 12 miles an hour.

(*Mr. Harrington.*) Yes, the company seems to think they have a right to go down hill at 25 miles an hour.

(*Mr. Huggard.*) We say this is not an oblique road crossing at all.

(*Major Marindin.*) They are clearly bound to be running only 12 at this side of it.

(*Mr. Huggard.*) We say as a rule we never run more than 12, but by law we are entitled to go 25.

(*Mr Harrington.*) It would be really a matter for public safety to have that set right, because this is a case of a company and its officials contending that are not bound to pull up at that particular point.

(*Major Marindin.*) What is the mileage of that crossing?

(*Mr. Harrington.*) About 12½ to 13.

(*Major Marindin.*) We can look into that afterwards.

(*Mr. Harrington.*) If that is an oblique crossing they have been disobeying the law.

(*Major Marindin.*) You read the undertaking as only applying to oblique crossings on the tramway line.

(*Mr. Huggard.*) That is what we do say.

(*Mr. Harrington.*) I maintain it is oblique crossings on any part of the line.

(*Major Marindin.*) According to the wording of the instructions you are perfectly right, but I am inclined to think it was not intended where the line was fenced off from the road by a proper gate.

1335. (*Mr. Harrington.*) You noticed, at all events, that it was going pretty fast. I think you said to some friend you would not like to be on that?—I did; there was a neighbour of mine inside, he said it came pretty fast, and I said I would not like to be on the engine, I meant before the waggons as the rails were so slippy.

1336. The neighbour inside appeared to agree with you that he would not like either to be on it?—He did not say a word about it, it was I myself said it, and we were talking afterwards and he said he saw trains to go faster, he counted all the waggons out through the window of the cottage.

1337. But you said you would not like to be on it at all events?—Honestly I said I would not like to be on the engine.

THOMAS REARDEN sworn.

1338. (*Mr. Horgan.*) You were in this train?—I was.

1339. Coming from Dingle?—Yes.

1340. You were at the fair of Dingle?—Yes.

1341. Buying pigs?—Yes.

1342. Had you any experience in railway business before that?—I had. I was 13 months working on the Waterford and Limerick Railway.

1343. Had you any experience as to the vacuum brake and the hand brake?—I had.

1344. You know the working of it?—I do.

1345. (*Major Marindin.*) What were you working as?—As a special guard often.

1346. (*Mr. Horgan.*) You were in the van with O'Leary?—I was.

1347. And seven or eight more?—I think there were ten.

1348. Now when you came as far as Aunascaul you remember the train ran past?—She ran nearly 300 yards past the station.

1349. What was the cause of that as far as you could see?—I thought the man had no control of his engine.

1350. (*Major Marindin.*) The vacuum brake was not working then?—No, sir.

1351. (*Mr. Horgan.*) Did you hear O'Leary say that only for the points were fixed?—He did. I told him only for the points being settled by the station-master we were killed.

1352. (*Major Marindin.*) What points are those?—The points going into the station off the main road; if they had not been set we would have been off the road; he should have stopped 20 or 25 yards before he came to the station to take water.

1353. The signal was right for you?—Yes.

1354. And if the points were not right the signal would not be right?—Yes.

1355. (*Mr. Horgan.*) So far back as Aunascaul you charged him with having no control over his engine?—I spoke to O'Leary and he made the remark to me that the man came down too quick; there was a little hill there.

1356. You know when you come to the top of the hill at Glen-na-galt, did you see the vacuum brake put on?—I did.

1357. When?—After he started.

1358. Before he came to the top?—He had no vacuum on before he came to the top.

1359. (*Major Marindin.*) As I understand it, he had not got the vacuum brake in working order as far as this place, Aunascaul, after that the vacuum brake was put into working order?—It was put into working order for a short distance; he stopped nearly five times before he came to the top of the hill, and it was put off.

1360. And then he went to the top of the hill without the brake?—Yes.

1361. (*Mr. Horgan.*) Did this man O'Leary put on the lever of the vacuum brake going up the hill?—He did not go near it good or bad.

1362. You remember then when he came to the top of the hill?—I do.

1363. Were the brakes put on then?—They were; he went out himself and put them on; he put on the brakes in the waggons first; I was looking out of the window, himself and the man that was killed, Loughlin, went out and put on the brakes, he put on his own hand brake then. We went down the hill, and he turned to us and said, "We are going very quick."

1364. Did you observe a quick start?—I did. He turned back and said, "That is a quick start." "It is," said I. We were going away quick enough, and when we came to Skylough gates—I know them well—there was two of us and Ned Slattery, we put on a hand-brake, and there is a screw below at the end of it, every time you pull it there is a screw catches the brake and holds it tight; we went down and put it on as tight as we could. We never went near the vacuum break, or he, until we came to Camp, and we nearly found the van running on the sleepers after the engine going over the bridge before he put his hand to the vacuum brake, and then he put on the vacuum brake.

1365. So that at any rate if anybody swore that he put on the lever?—I do not think there was anyone in the carriage bar myself that understood it.

1366. (*Mr. Morphy.*) You had experience in the Waterford and Limerick Railway?—I had a little.

1367. For how long?—13 months.

1368. Was that the whole time you were in their employment?—Yes.

1369. And from being a common labourer or pig jobber you were promoted to be a guard?—I am a tradesman—I am a pig jobber and a victualler.

1370. And you were guard of a train?—I was for a while.

1371. Do the two things generally go together, guard and pig jobber?—Four things altogether.

1372. What train did you act as guard to, was it a mail train?—A goods train.

1373. On your oath, is there a vacuum brake on one of the goods trains of the Waterford and Limerick Railway?—No, I acknowledge that.

1374. And you come up here and pretend to have a knowledge of vacuum brakes?—I have seen them on engines.

1375. And you thoroughly understand the mechanism of them?—Yes.

1376. Is it by air or steam that the brake is applied ?—By steam usually, and there are more of them worked by air.

1377. Do you know which it was in this case ?—By air.

1378. You were not at all disturbed going down hill that day ?—I was.

1379. Did not O'Leary tell you to go down on your knees ?—He told the people alongside me.

1380. You thought there was no necessity for your going on your knees ?—I did, more than anyone else, but I was knocked down. I had my head out of the window.

1381. And although your head was out of the window ?—I had an eye out of the window when I found it going too quick. I had to take it in because I could not keep it out in the latter end.

1382. Do you mean to say O'Leary could not have interfered with the vacuum brake ?—I can swear he did not.

(*Mr. Morphy.*) Well, it is for the court to say whether they believe you.

(*Major Marindin.*) I believe him most thoroughly, and I do not see any reason why there should be an imputation cast on him.

(*Witness.*) I am telling the truth. I do not care whether I am believed or not. You can do what you you like with me.

1383. (*Mr. Harrington.*) Coming up Lispole Hill you found this engine slipping ?—They generally slip coming up the hill.

1384. After leaving Aunascaul there were a series of attempts and slipping ?—He slipped several times and had to go backwards.

1385. He had to give a little jerk, and he had to go back 200 yards to give it a run ?—I think more.

1386. That is apart altogether from backing into the station at Aunascaul ?—Apart from that. At another place he had to back more than 200 yards for a run.

1387. From all you saw, and the experience you had of engines coming up that hill, was the engine or the man unmanageable ?—Someone must be in fault. I was in every train going to Dingle since the narrow gauge ran. I do not think I missed a fair in Dingle or Castlegregory or Camp, and I never saw the man driving before.

1388. (*Mr. Adams.*) Did you ever see anything going on like that that went on that day ?—We had to make two halves of a train another day coming from Dingle, and he had to come back for the rest of them.

1389. (*Major Marindin.*) What engine was that ?—It was the best engine they had by all accounts.

1390. (*Mr. Harrington.*) Was it No. 1 ?—It was not.

1391, You told me you have been at every fair that was in Dingle since the line was constructed ?—I think every fair since the train ran.

1392. And you went by that train, and you never saw this engine-driver driving before ?—Never saw him, and I was in every fair in Castlegregory, with the exception of one or two.

(*Mr. Morphy.*) On a rather immaterial matter I have just got a telegram from the father of unfortunate Redshaw : " Parke's evidence in ' Times ' report " shows my son to have been five years in Great " Northern Railway service, but he was 11 years " there."

The inquiry was adjourned to next day.

Friday, June 9th, 1893.

The inquiry was resumed at half-past 10 o'clock on June 9th.

(*Mr. Horgan.*) I propose with your permission to examine Mr. Graves, the former engine driver ?

(*Major Marindin.*) There are other witnesses to be examined first.

(*Mr. Horgan.*) I take the liberty of handing in to you the report of Mr. Hynes, the Grand Jury auditor. He says :—" The contractor for the line was bound " under the terms of his contract to supply carriages " of all kinds, 70, engines, 4. By returns issued by " the company up to 30th November 1891 he has " only supplied 47."

(*Mr. Adams.*) Forty-seven, what ?

(*Mr. Horgan.*) Carriages, and he was bound to supply 70.

(*Mr. Adams.*) That would rather arise on a general inquiry into the line ; what has that to do with the accident ?

(*Mr. Horgan.*) I was thinking you would make the inquiry a primitive one so that we could get relieved of the burden by the Government ?

(*Major Marindin.*) I am afraid that is beyond my reference.

(*Mr. Horgan.*) If we get a loan of 50,000*l.* or 60,000*l.* and make a good line of it, we would not want a grant if we got it repayable at 2,000*l.* a year, like the seed loan, we would be all right.

(*Major Marindin.*) I am afraid that is beyond the scope of this inquiry ; if you want any such inquiry it will be for you to apply to have it held, but this inquiry is into the causes and circumstances attending this accident, and Mr. Adams and I decide we must confine it to that particular reference.

Constable JAMES MCDONALD, R.I.C., sworn.

1393. (*Major Marindin.*) What are you ?—A police constable stationed at Camp.

1394. Where were you when this accident happened ?—I was within 350 yards of the bridge, the scene of the accident.

1395. On the road ?—Yes.

1396. Now, will you tell me, please, in your own language what you saw ?—Well, sir, I was proceeding in the direction of Castlegregory Junction to attend the train, as I was about 350 yards below this bridge my attention was attracted by the terrible noise of the train.

1397. Was it then in sight ?—It was not in sight because a wood intervened, but immediately as it passed the wood the noise came directly to me ; the noise was terrific. I turned suddenly round and instantly I saw the train dash over the bridge at the side of the bridge furthest from me ; the crash was tremendous, it was like a roll of thunder. I ran immediately back and I met the guard O'Leary, he said, " We are all dead."

1398. Where was O'Leary, the guard ?—He was coming down to meet me from the bridge.

1399. Off the line ?—Off the line on the public road. He said, " We are all dead," and he passed me by. I ran up to the scene and ran to the engine. At a glance I saw that the three men that were on the engine were lying under the cab, which was detached

from the engine, the engine was lying on its side, and the cab was lying at the wheels and the three men underneath. I tried to lift the cab off them, but I was not able and there was no help. Then I caught the men and tried to pull them out, but I was not able; they were caught tight. When I saw I could not help them I thought I might go to the other side and lend some help. I went to the carriages and helped to pull some of the men out. Then I ran back to the engine and by this time help had arrived, and I lifted the cab and pulled three men out.

1400. Were they dead?—They were alive. Redshaw was alive and lived for about ten minutes. I cleaned and washed his mouth and helped him as well as I could, and he died in about ten minutes. O'Loughlin appeared to be bad, but after reviving him with a drink he got better, and I put him sitting up against a bank; his intestines were protruding and he was terribly mutilated. He was very sensible and spoke consciously; he asked for the priest, he told me his leg was broken, and he inquired about the accident, and asked did she come off the rails. Dillon was in a bad state. I washed him and took the dirt out of his mouth, and rubbed his arms, which seemed to relieve him, and he worked as if in convulsions.

1401. How long was it after the accident before the cab was lifted off them?—It was hardly five minutes.

1402. Did you say some of the men spoke to you?—None, but O'Loughlin, he was very conscious.

1403. Did O'Loughlin say anything which would throw any light on what happened?—No, sir, he seemed to be rather inquiring about it than giving information.

1404. None of them seemed to be able to give any information?—No, sir; in fact I had not much time to listen as I was running about trying to get help.

(*Mr. Harrington.*) He seemed to ask had the train gone off the line?

1405. (*Major Marindin.*) Quite so. Where was the train when you first saw it?—When I first saw it it was immediately going over the bridge, when I turned round it was dashing over the bridge. A wood intervened, but immediately it came out of the wood I could see it, either on the bridge or about 20 yards from the bridge, but I did not see it until it was on the bridge.

1406. What was the sort of noise?—Like a roll of thunder.

1407. Very rapid running of the train?—Yes.

1408. Did you hear any noise of steam?—Yes, sir.

1409. Are you sure of that?—I am, sir.

1410. You are sure you heard the roar of steam from the engine?—The engine was standing in the river when I went up, steaming frightfully.

1411. And yet the regulator was shut?—I could not see whether there was steam on the bridge because it was in the twinkling of an eye I saw it over.

1412. Can you say whether there was steam escaping from the funnel of the engine as it approached?—I could not, because when I looked the engine had gone over the bridge and it was only the carriages.

1413. And the steam in the river may have been from the broken tubes?—Yes.

(*Mr. Huggard.*) In the depositions of the coroner before you there is the evidence of a man named Darcy, which I would suggest you should read as he is not here.

1414. (*Major Marindin.*) Where is he?—He was in company with me walking down the road.

1415. What is he?—He is a school teacher in Dingle.

(*Major Marindin.*) I think for my own technical examination it is very necessary that I should have a train made up almost as this train was made up and try a few experiments. I have made up my mind to remain here and take possession of the line on Sunday and make experiments.

(*Mr. Harrington.*) There was another disaster yesterday.

(*Mr. Horgan.*) We wish the Board of Trade had possession of it altogether.

(Mr. Harrington reads a newspaper report of the evidence of William Darcy at the inquest. He also called attention to the heading. "The Kerry Disaster: Soap on the Line," which appeared in the *Dublin Evening Herald.*)

1416. (*Mr. Horgan.*) How long are you stationed in Camp?—Since September or October last.

1417. How many accidents have occurred on the line since you came there?—I do not know.

1418. How many cattle were killed?—There were some cattle.

(*Major Marindin.*) Never mind cattle.

1419. (*Mr. Horgan.*) Are not people very uneasy about travelling on this particular portion of the line?—I do not know the feelings of other individuals.

1420. As far as you know?—I think they are.

(*Major Marindin.*) I do not think we can go into the general feeling.

1421. (*Mr. Harrington.*) I might ask him whether the line is not considered very dangerous at this particular point?—As far as myself is concerned I think the curve dangerous.

1422. I am sure you would rather walk into town than take that train if you were not compelled?—I would not; I would chance it at all events.

(*Mr. Harrington.*) There is one thing, everybody commends the constable for the assistance he gave on that occasion.

(*Mr. Huggard.*) There is no doubt about it this man behaved splendidly.

1423. (*Major Marindin.*) You have seen several trains pass, I suppose?—Yes.

1424. Can you form any estimate as to the speed at which they have come down that incline?—I am not in a position to answer that.

1425. You can perhaps say whether they are in the habit of coming round that curve much faster than you can walk?—They generally come round very slowly.

1426. In approaching it how fast do they run?—They generally come slowly down the hill.

SINGLETON GOODWIN, C.E., sworn.

1427. (*Mr. Huggard.*) I understand you were at Castlegregory this day, and returning home on foot?—Yes.

1428. About what point of the road were you at when you saw the Dingle train approaching?—About two or three miles from the junction on the Castlegregory branch.

1429. Where first did you see the Dingle train?—I saw it coming round the level crossing at Skylough.

1430. Of course it was in motion when you saw it?—Yes.

1431. It had left the top of the hill coming on?—Yes.

1432. You were, I suppose, almost immediately underneath it?—I was about a mile in a direct line from it.

1433. Did you notice anything unusual?—I frequently have seen trains coming down from the same point, and certainly, though I did not take much notice of it, it struck me that it was coming much quicker than they usually come. At that point they generally appear to be going when you are down below like at a snail's pace almost; this train was going very much quicker.

1434. Did it strike you at the time that it was going too fast?—No, I thought it was going very fast for a loaded train, but it did not occur to me to follow its motion.

1435. (*Major Marindin.*) You were not alarmed?—No, not a bit alarmed because I had seen trains going as fast.

1436. (*Mr. Huggard.*) Did you have a conversation with Mr. McGinn about picking it up at the

junction ?—Yes, we were wet, and he remarked we might pick it up at the junction. I said there was no chance of picking it up, as it might either wait for a passenger train or go straight into town, and we thought no more about it.

1437. You have seen trains going as quick ?—Yes, I should say as quick.

1438. How far did you follow the train's progress with your eye ?—I could see it very nearly the whole way down.

1439. How far did you ?—I do not think I looked after it for more than a quarter of a mile, and then I saw no more of it; I just looked up casually.

1440. (*Mr. Huggard.*) Your eye could follow it very nearly into the village of Camp ?—Yes, the only thing that struck me as extraordinary was that it did not seem to me to reach the junction. When it reaches the junction there is generally a lot of steam and shunting and whistling, and I was surprised I did not hear it.

1441. (*Major Marindin.*) Did you hear of the accident ?—Oh, yes, I went up immediately.

1442. (*Mr. Huggard.*) Did you hear any whistling of the engine as it went down the hill ?—I have an idea that I heard whistling at Camp, but it did not strike me as anything particular; one often hears that.

1443. (*Major Marindin.*) There was no continuous whistling ?—No.

1444. (*Mr. Huggard.*) Is the distance from Skylough gates to where the accident occurred 1½ miles ?—It is, or 1¾.

1445. If the train were going at the rate of 40 miles an hour it would take something over two minutes to traverse that distance ?—Between two and three minutes.

1446. Have you any experience yourself of engines or engine driving ?—No, I have not, I have a very superficial knowledge.

1447. If a train were going down hill, suppose 12 miles an hour, what distance do you think would be a reasonable distance for stopping it, given its brakes in good order ?—It ought to be stopped in 100 yards at 12 miles an hour.

1448. What I want to come at is the whole space of time from Skylough gate was only two minutes; what space of time would it take to stop a train going 20 miles an hour down an incline ? Do you yourself know whether there is such a thing as a greasy rail ?—I am very familiar with the expression. I have had no unpleasant experience of it. I think I have seen trains skidding.

1449. You are not talking of this line ?—Not in particular.

1450. I believe it is a well-known thing in the tunnel going into the city of Cork ?—A greasy rail is a very common thing.

1451. (*Major Marindin.*) While we are on this part of your examination I would like to know when you saw this engine first was it steaming or not ?—No.

1452. And at no time as it was coming down the incline did you see any steam ?—No; I have an idea that I saw steam over the trees at Camp when he evidently reversed; I cannot be very positive.

1453. (*Mr. Harrington.*) You cannot say whether it was then actually in the river or not ?—No.

1454. In what position were you when the train came down the hill ?—I was on the Castlegregory road below.

1455. The train was not going at right angles to your line of vision ?—No.

1456. More parallel ?—Oh, it was at right angles to my line of vision.

1457. Then you would be able to judge of its speed ?—Yes.

1458. You know this place very well ?—I am very familiar with the place.

1459. You said you had no experience of any disaster on that line, I believe you generally take a safer mode of travelling there ?—I frequently travel by the railway and find it very convenient.

1460. You have examined this curve and the gradients at both sides ?—Yes.

1461. From your knowledge and the measurements of the gradients and curves, do you consider that approach and the curve there safe ?—I do not.

1462. Would you go further and regard it as extremely dangerous ?—I would unless the limits of speed were observed; if you could guarantee the limits of speed I think it is safe enough.

1463. If a brake gets out of order, or coming down the hill, anything which renders a brake unworkable, the steam becomes exhausted; you think all those things make that place particularly liable to accident at any time ?—I think so.

1464. I think you measured portion of the gradient under this bridge ?—Yes, I took the levels up there.

1465. And you found that was in excess ?—It was admitted yesterday; it is a very short bit, about 100 feet.

1466. A gradient of 1 in 26 ?—Yes.

(*Mr. Harrington.*) I think as Mr. Goodwin is up here we might have his suggestion as to how this defect in the curve might be obviated without any expense.

(*Major Marindin.*) It is patent how it might be obviated.

1467. (*Mr. Harrington.*) We might have it in evidence. Do you see any great difficulty in obviating that very acute curve there ?—There is no difficulty as long as you can get the money.

1468. (*Major Marindin.*) By a deviation southwards ?—Yes, what Mr. Hickson suggested.

1469. (*Mr. Harrington.*) Crossing at a higher part of the river ?—Yes, and bringing the junction nearer to Tralee it would necessitate some cutting and give a flatter gradient.

1470. Would you also recommend that, if possible, this extraordinary gradient should not be allowed ?—Going up the valley would necessitate some sharp curves, not perhaps as sharp as there; I think you could get almost a level gradient, that is only from just studying the Ordnance map.

1471. You know the whole course of the line ?—I do very well.

1472. And I believe, as a matter of fact, the observations applying to this place would also apply to some other parts of the line ?

(*Mr. Adams.*) We have been considering this matter. We must confine it to this accident. All our warrant is to inquire into the causes and circumstances of the accident at Camp.

1473. (*Mr. Harrington.*) We are trying to put it a little further, and getting the means of remedying it and preventing further accidents, and having regard to the fact that they are occurring while your Commission is sitting. You have seen the regulations as to speed in the regulations of General Hutchinson ?—I am not very familiar with them, but I have a general idea.

1474. I will show them to you, and as it is a matter of some importance to the public, and as the company seems to have a doubt on it, I have to refer to these oblique crossings. You will see from another report of General Hutchinson's there is nothing to restrict it to the tramway. In his report of December 24 he says:—"On the railway portion of the line there are "11 level crossings of public roads authorised by the "Orders in Council, two of those on gradients on 1 in "30 ought never to have been allowed." I want to point out that this crossing at Skylough Gate is evidently one of those two. And in the directions as to speed he says:—"Five miles an hour at the following "places:—At the oblique crossings of all roads when "approached on the level or on a falling gradient." Do you see anything in that which would limit the restriction of speed to the tramway portion of the line ?—No, I do not.

1475. As it is worded there, and especially having reference to the paragraph in the preceding report, do you believe that it should limit the speed at Skylough Gate to five miles an hour ?—I do, certainly.

1476. (*Major Marindin.*) In your position as county surveyor, you are responsible to whom ?—The grand jury.

1477. Is it your duty or part of your duty to make any periodic report on this line ?—Yes ; I make an annual report to the grand jury at the Summer Assizes on the general condition of the permanent way and fencing and the rolling stock.

1478. Have you that report ?—I can get you the last report. It is made in June 1892.

1479. You have not yet made your annual report for this year ?—No.

1480. You might read the report, I think ?—

REPORT OF THE COUNTY SURVEYOR OF KERRY TO THE GRAND JURY AT SUMMER ASSIZES, 1892, ON THE TRALEE AND DINGLE LIGHT RAILWAY.

MR. FOREMAN AND GENTLEMEN,—I beg to lay before you the following report on the condition of the permanent way, and works in connection therewith, and the rolling stock of the Tralee and Dingle Light Railway :—

1. I inspected the line on 20th, 27th, 28th, and 29th of last month, and, speaking generally, found the permanent way in good repair.

The following matters should be attended to :—

2. Between Tralee and Castlegregory, a large number of sleepers require to be renewed, which should be done with as little delay as possible. On the same portion of the line a good deal of ballast is required. In many places the packing of the sleepers requires to be attended to.

3. All along the line a number of fish bolts are missing, and many of the iron clips are broken.

4. The paving of one of the arches of the bridge at 5¾ ms. require renewal ; and also of the bridge at 25¼ ms.

5. One of the gates at Skirlough public road crossing is gone, and should be replaced with as little delay as possible, as cattle and donkeys are apt to stray in on the line at this place. The railing of the cattle trap at the east end of the cutting at the same place requires repairing.

6. The road fences at the following places require repairs :—Between 7¾, 8¾ ms., at 13½ ms., at 18½ ms., and in several other places along the branch.

7. The wheels of two out of the three engines which required it have been turned ; one of these engines met with a serious accident some time ago by having the crown plate of the fire-box cracked, which of course renders it useless until it has been repaired. In other respects the engines seem to be in good repair and fair running order.

8. The waggons and carriages are all in good repair.

9. All the ironwork of bridges, farm crossing gates requires to be painted.—I have the honour to remain, gentlemen, your obedient servant.

SINGLETON GOODWIN.

Tralee Court House, 6th July 1892.

1481. That was your report on inspection of last year ?—Yes.

1482. Did you make any inspection to see whether those requirements of yours had been attended to or not, do you know ?—No, I did not. My position is very undefined. I have no compulsory powers.

1483. There is nothing in that report to draw any particular attention to any deficiencies in the permanent way at this particular point ?—No.

1484. At this particular point, apparently, the permanent way was found to be in good condition ?—Yes, generally good. The general fault with the permanent way then was requiring new sleepers and ballast, and from my own observation during the last year there has been a good deal of work in that line done. The only thing I observed is the gate at the public road crossing has not been put in.

1485. As far as the state of the line at the particular point we are engaged on there was nothing which you thought it necessary to call attention to ?—No.

1486. (*Mr. Huggard*). You did not notice that there was one portion which had fallen to 1 in 26 ?—No, I did not test the gradients.

1487. As to the limits of speed, this line at Skirlough at both sides is a railway ?—Yes, at both sides of the road.

1488. It is railway running into railway across a road ?—Yes. But what fixes it on my mind that General Hutchinson intended that restriction is that I was with him at the inspection and he remarked to me, I do not know whether it was that crossing, but the other level crossing, which is on the branch, and which is exactly similar, it is in railway, and he remarked to me going down, "This should never have been allowed." He turned to me and said, "Your pre-" decessor should never have allowed this." That is what fixes it on my mind that he intended the speed to apply to these places.

1489. Is it not in the position of an ordinary railway crossing the road with gates to it, why should there be any restriction on speed ?—Of course it is, that is why I formed my idea on the wording of the regulations, that he intended them to apply to these two level crossings, because he made that remark to me.

1490. He made the remark that this should never have been allowed ?—Yes, and in the regulations he says the oblique crossings of all roads.

1491. Do not you read that to apply to the tramway portion of the line ?—And these two.

1492. (*Mr. Harrington.*) At all events you have not had any inspection of the line since to see whether your requirements were carried out ?—No.

1493. But you have personal observation as to one requirement, the gate ?—That has not been put in.

(*Major Marindin.*) It is fair to say that he observed a good deal of work had been done with regard to the re-sleepering and ballasting.

(*Mr. Harrington.*) You will best know the value of the observations I have to make on another portion of General Hutchinson's report, in view of portion of the evidence last evening ; one witness said that the automatic brake was not the brake which was in operation at all on the engine.

(*Major Marindin.*) I think not. It was rather this, he said there was not the automatic attachment to the valve in the guard's van ; it affects the question as to whether the application of the brake suddenly on the engine throws open the valve.

(*Mr. Harrington.*) I notice in the report that the brakes are automatic.

(*Major Marindin.*) In some patterns of valves in the guard's van there is an automatic chamber or attachment, which, when the brake is suddenly applied, throws open the valve in the guard van by itself, a sudden application by the driver throws it open so as to obtain a flow of air at that end, making the application of the brake quicker. In this particular brake that is not so.

1494. (*Mr. Harrington.*) You examined this place the day after the disaster ?—The day.

1495. Did it appear to you as if the wheels had gone at all on the check rail ?—Running on it, oh, no. I could not see any marks on the rails whatsoever, I looked carefully. I could see no evidence even that the wheels had passed over the rails. Of course the other carriages had come down after the engine.

HARRY QUINN sworn.

1496. (*Major Marindin.*) How long have you been in the service of the company ?—Since the line opened.

1497. How long have you been a driver ?—Something over four years.

1498. And where were you employed driving before you came to the line ?—Firing on the Great Southern and Western Railway.

1499. How did you come here, in answer to an advertisement for drivers ?—I was sacked off the Great Southern and Western Railway.

1500. Then you got employment on this line as a driver?—No, sir.

1501. How did you come to drive here?—I came here as a fireman.

1502. How long were you firing on the line?—Eight or nine months.

1503. How long have you been a full driver on this line?—I could not exactly tell you; when the contractor was here I got driving first.

1504. Then you have been a driver ever since the line was opened?—Yes.

1505. Had you been working on the line some time previously with the contractor?—Yes.

1506. When was the last time you passed over this particular part of the line before the accident happened?—That morning.

1507. You went down to Dingle that morning?—I did.

1508. Which engine were you driving on the way down?—No. 5.

1509. And going down No. 1 was attached to you?—In front.

1510. In going down who worked the brake?—The driver of No. 1.

1511. But it was connected through?—It was connected through.

1512. On your downward journey did the brake act properly?—It did.

1513. And was very often applied no doubt?—It was, sir.

1514. Used on the way down?—We generally use the hand brake on the inclines, we can check it with the two engines.

1515. Have you ever driven No. 1?—Either the Friday or the Saturday before the accident.

1516. In what state was it, in good order?—In good order.

1517. Do you know why it was sent into the shops to be looked round; was it on your requisition it went in?—No.

1518. When you drove it, as far as you knew it was in good order?—It was.

1519. Was the brake in good order?—It was.

1520. Have you ever had any difficulty in checking your speed, coming down that incline, to within the proper limits?—I never had any difficulty in it.

1521. You have been able to keep your train running at 12 miles an hour down the incline and five miles an hour where the accident happened?—Yes, but I do not think we ever went five miles an hour over it.

1522. In going round that curve what has been the speed you ran at?—I often went round it at six, but we always check the engine before coming on the curve, six miles an hour or seven or ten miles, but when we come on it I let her swing round.

1523. Have you been in the habit of coming round the curve at 10 miles an hour with a passenger train?—No, sir.

1524. What has been the highest speed?—Between five and six miles an hour.

1525. And you had no difficulty in keeping your train in proper control coming down this line?—No, sir.

1526. (*Mr. Huggard.*) We may as well have it at once you are the driver with whom the train in the contractor's time ran away down this hill?—I was; a ballast train.

1527. Tell us how that train was made up, was the engine in front or at the rear?—At the rear.

1528. And how many ballast waggons had you?—As far as I can remember it was 11 or 10.

1529. Were they loaded?—They were.

1530. Would that have been as heavy a train as the train of the accident?—I think it was twice as heavy.

1531. What brake power had you on, had you a vacuum brake on the engine?—No, all the waggons were not fitted up at that time.

1532. I am not coming to the waggons yet, but the vacuum brake on the engine?—Yes.

1533. And applying to the engine wheels?—Yes.

1534. Did it extend to any carriage?—No, sir.

1535. Therefore you had nothing braked at all except the engine?—That is all.

1536. (*Major Marindin.*) No van at the other end?—No.

1537. Were there any vans on this train, any brake vans?—No, sir.

1538. At what point of the hill did she get away from your control?—Coming into Camp village somewhere.

1539. What speed did she get to before she came to this curve, as near as you could tell?—Very nearly 30 miles an hour or more.

1540. Did you keep your brake locked upon the wheels of the engine going round the curve?—No, sir.

1541. Did you let her do her best?—I did and checked her after.

1542. I suppose every driver has different ideas of coming down a hill?—I could not tell you about any driver but myself.

1543. When you were coming round this curve with passenger trains in the ordinary course of business, do you keep the break on?—No, I let her swing round nice and easy; sometimes I may have to put on steam to get round.

1544. As you get round it?—Yes.

1545. (*Mr. Huggard.*) About how many yards off from the bridge do you take off the brake?—About 10 or 12 yards.

1546. Do you come down at one even pace the whole hill from Skirlough down?—Sometimes I go a bit quicker, 6 or 8 miles an hour.

1547. You have never exceeded 8 miles an hour coming down?

(*Mr. Harrington.*) He never said that.

(*Major Marindin.*) He is allowed 12.

1548. (*Mr Huggard.*) But I want to know does he exceed 8, as a rule your pace is 6?—Six.

1549–59. What is the highest you go to with passenger trains?

(*Major Marindin.*) After leaving Skylough crossing?—6 and 7 and 8, no more. I often went 12 though.

1560. Did you ever find any difficulty in breaking the train on the incline at 8 miles an hour?—No.

1561. I suppose every driver knows what a greasy rail is?—I expect they do.

1562. On this particular day of the accident were the rails greasy?—They were.

1563. Were they exceptionally greasy, very greasy?—They were very often on that same place.

1564. (*Mr. Harrington.*) You went out this morning to Dingle?—Yes.

1565. You were on No. 5 engine?—Yes.

1566. Who was driving No. 1 engine?—Mr. Redshaw.

1567. Are you sure, now think of yourself, who was the driver, actually in charge of No. 1 engine going out that morning?—Mr. Redshaw.

1568. Did you see him on No. 1 engine?—I did.

1569. The whole way out?—Yes.

1570. Who was with him on the engine?—Dick Dillon, Barney Loughlin, I do not know the other chap, the name of the fitter.

1571. Then the man who was driving No. 1 engine was the man in charge of the passenger train going out that morning?—He had the whole charge; he was in front of the train.

1572. What employment were you in before you came here?

(*Major Marindin.*) The Great Southern and Western Railway.

1573. (*Mr. Harrington.*) You did not know Redshaw before he came to the employment here?—No, sir.

1574. Did you ever hear whether he ran an engine in any other place before he came here?—No, never.

1575. Did you ever hear that he did not?—I never did.

1576. Quite sure of that; did you hear in the yard among the workmen in the employment, did you ever

hear it observed that he never ran an engine until he came to Tralee?—I never made any acquaintance with any of the men in the yard.

1577. (*Mr. Morphy.*) The men in the yard did not know at all.

1578. (*Mr. Adams.*) Did you ever see Redshaw drive?—I did.

1579. Could he drive?—Yes, sir.

1580. (*Mr. Harrington.*) Where did you see him drive?—I fired for him from Tralee to Dingle.

1581. Did you often?—Once.

1582. What are your directions as to coming down this incline, what rule did you observe? It seems to me you have a very hazy idea as to what you are to do; were you ever told anything as to that steep coming down from Glen-na-galt?—It is in the rule book. If you have more than four waggons you are to stop on the top of the hill and put all the brakes down, the hand brake is to be used on this incline. It says in the rule book, too, when you want to signify to the guard to put on his hand brake, if you think you are going too quick, give three sharp whistles and one to take off.

1583. Now as to the rate of speed, did you since the line was opened for public traffic, did you come down that whole incline at more than 12 miles an hour sometimes?—No, sir.

1584. Are you sure?—I am not certain except with the ballast train, when I was working.

1585. I am speaking since the line opened, and you were in charge of a public train?—I forget what time the ballast train was working. I never came down more than 6 or 8 miles an hour.

1586. Did you say now to Mr. Huggard in the commencement of your evidence that you often came down there at the rate of 10 miles an hour and 12 miles?—Not with a passenger train, with a ballast train.

1587. (*Major Marindin.*) I think it was rather an answer to me, and I think he was alluding to this runaway train?—We have no occasion, we have plenty of time to come down there, sometimes 25 minutes.

1588. (*Mr. Harrington.*) What is the speed at which you are bound to come down the curve at the bridge where this disaster took place?—Two or 3 or 4 or 5, never any more.

1589. What is the speed you must not go beyond in coming down to that bridge; is there a regular fixed speed for approaching that spot?—I forget about it.

(*Major Marindin.*) Will you ask him what is the speed according to the rule on going round the curve at which the accident happened?

1590. (*Mr. Harrington.*) Precisely, that is what I am asking. You are an intelligent driver on that line. Since it opened you have driven it every day?—Four times a day up and down.

1591. What is the speed at which you must come round this curve where the accident happened?—I do not know. I never took notice in the rule book. Five miles an hour I come round it, but I did not see anything in the rule book about it.

1592. Is that you have there your own rule book?—Yes.

1593. How long have you that in your possession?—I have five or six.

1594. How long have you that particular one in your possession?—About a month, I think.

1595. (*Major Marindin.*) Before that rule book was issued to you had you one similar to it?—I had two or three of them.

1596. Have you ever since you have been driving on this line as a driver had a rule book in your possession?—I have.

1597. Always?—Always.

1598. (*Mr. Harrington.*) Do you sign for a rule book when you get it?—Yes.

1599. Let us know when you signed last for a rule book.

(*Major Marindin.*) The man says he has always had a rule book.

(*Witness.*) I did not sign for the rule book I have now.

1600. (*Mr. Harrington.*) When did you get it?—I used always get it from the superintendent, and there is no superintendent there at present.

1601. If there was a superintendent there you would have signed for the rule book, and therefore you got the rule book since his death?—No, I did not.

(*Major Marindin.*) It does not appear to me to matter very much whether he had this particular rule book or not.

1602. (*Mr. Harrington.*) It does not, but I am trying to make out he had not one at all before?—I can bring two or three others to-morrow morning.

1603. When did you get this particular one?—About a month ago.

1604. (*Mr. Adams.*) Did you get it since the accident?—No.

1605. Who wrote that, "31st March 1891," in the front page?—

(*Mr. Huggard.*) It is in the handwriting of an employée named Sweeny, who is a man who goes along the line looking after stations.

(*Mr. Morphy.*) One of those was found in the pocket of the unfortunate Redshaw.

1606. (*Major Marindin.*) Every driver is supposed to have it, but apparently this man, if he had a copy of the rule book, did not take much notice of it?—No, I did not.

1607. (*Mr. Harrington.*) You reported to your superiors in the company that on some occasion when you were passing the line was soaped?—I did.

1608. Did you complain to any policeman of that?—I forget; I could not tell you.

(*Mr. Adams.*) Major Marindin and I are unanimous in thinking that soaping or any malicious act of this kind had nothing to do with the accident we are inquiring into now and we have more than once expressed our opinion on that point.

(*Mr. Harrington.*) I did all I could to keep it out, but it was sprung on me with so much persistency and has got into the newspapers, and I want to bring it to a test. Was it ever reported to any independent person, a constable, or anyone who could give an impartial opinion?

1609. (*Mr. Adams.*) Was it reported to the police?—The manager might have done it.

1610. (*Mr. Harrington.*) Did you ever do it?—I could not tell you that.

1611. Some time previous to this you were driving a special with pigs up the hill and could not manage it, and you had to divide your train?—I had.

1612. Where did that occur?—Very nearly the top of Glen-na-Galt.

1613. And there were passengers as well as pigs on the train?—Yes.

1614. What engine had you on that occasion?—No. 5.

1615. (*Major Marindin.*) Is that the light or the heavy engine?—The heavy.

1616. (*Mr. Harrington.*) Was it on pressure from he passengers you divided the train or on your own motion?—My own motion.

1617. What did you do?—I ran short of water and coal and had to divide the train.

1618. (*Major Marindin.*) Could not keep up sufficient steam?—Yes.

1619. You came to a stand, divided the train, and took the first portion up to the top?—Yes, and went to camp.

1620. And then went back for the other part?—Yes.

1621. I suppose the whole train was fitted with the automatic vacuum brake?—Yes.

1622. So that the part you left behind would stand with the brake on?—Yes.

1623. (*Mr. Harrington.*) Ran short of coal and water both?—Yes.

1624. You were in court when O'Leary was giving a description of the exertions to come up that incline on this day, the length of time it took to come up, the different times it stopped and backed?—I was not here.

1625. Were you in court when he gave that evidence at the inquest?—About what engine?

1626. The engine that came up before you on that day?—Oh, I thought it was the one I was working myself. I was.

1627. You heard all he said about the stopping and backing and getting it up?—Yes.

1628. Can you give, as an expert, intelligent driver, any explanation to the court of what was wrong with that engine or the driver, or was it both?—I cannot say there was anything wrong with the engine.

1629. With the driver; was he able to work it?—He was, to be sure, able.

1630. What was the matter; why did it not come up?—I was not there and could not tell what was the matter.

1631. Can you give us any opinion as to what was the matter with all these attempts to come up?—It must be a greasy rail or something; it was the lightest load that ever left Dingle on a fair day.

1632. And still it was not able to bring it up?—He was able to bring it up; he did bring it up.

1633. Was it the greasy rail that made it run past the station at Aunascaul?—I was not there and could not tell.

1634. (*Major Marindin.*) What do you think was the reason that the man overran the station at Aunascaul?—He might put on brakes and let it skeet down all the way if the rail was greasy.

1635. If you were told he had no continuous brake on, what would you say was the reason he ran past the station?—He had no power on her.

(*Mr. Morphy.*) At the inquest it was shown that there is a water tank at this place you are speaking of, and that if the driver overshot the water tank by even a yard he would find it necessary to go on a little distance in order to give himself a momentum to go back.

(*Major Marindin.*) It is quite clear the man in approaching the station overran, and my explanation is that the man had not his continuous brake attached.

(*Mr. Morphy.*) He ought to have stopped at a certain point where there was a water tank, owing to a greasy rail he overshot it by a yard, and he allowed the train to go on a bit to give him a run to go back.

(*Major Marindin.*) The tank is at the foot of a gradient of 1 in 30, and he went to get the level.

1636. (*Mr. Harrington.*) "We came slowly but had "very little stoppage. About 200 yards the other side "of the hotel the engine came to a standstill again, and "he was trying to start, and she was going backwards "and forwards for nearly half an hour." Was that a greasy rail?—If it was raining the whole road would be greasy.

1637. If she goes forward she gets the grease off the rail; at all events she was going backwards and forwards for half an hour; have you no other explanation only that it was a greasy rail?—That is all.

1638. "She used to run a length of metals and "back again. We moved slowly until we arrived at "the first crossing on the country road this side of "Aunascaul. All the jobbers got out of the train. I "could not say why we stopped there."

1639. (*Mr. Adams.*) You have heard this over and over again. Have you formed any opinion why all this happened?—All I know is that there was a greasy rail.

1640. (*Mr. Harrington.*) You have no other explanation to offer for that except the greasy rail?—Yes.

1641. The engine was all right?—Yes.

1642. The man was all right?—Yes.

1643. Do you think there was steam sufficient in the engine?—I could not answer that.

1644. Had you ever to tear up the palings to supply the boiler?—Never.

1645. Or borrow water?—Never.

1646. Turf?—No, sir.

1647. Was it done to your knowledge?—I could not tell you.

1648. Did you hear it?—I heard something about it, but I was not there.

1649. (*Major Marindin.*) At the time the ballast train ran away were the waggon brakes pinned down?—The hand brakes.

1650. And you had the brake on the engine?—Yes.

1651. And no connexion through the train of the vacuum brake?—No, they were not all fitted up at the time.

1652. Can your engine sand at both ends?—Yes.

1653. Then as to the rule book, that particular book that was put in just now, you have only had for a very short time?—That is all.

1654. But had you one previously similar to that?—Yes, sir; I can bring them in to-morrow morning.

1655. What are your hours of work?—I leave in the morning at 7 o'clock.

1656. What time do you arrive here?—I do not come here, I come to Camp.

1657. What time do you go off work in the evening?—8.55.

1658. How long are you off duty in the middle of the day?—I am off at Camp from a quarter to 9 until 25 minutes to 11, then I go back to Dingle.

1659. What time do you get there?—12.25.

1660. What do you do then?—I am done then until 3.30.

1661. Then you come on duty and bring the train to where?—To Camp.

1662. What time do you get to Camp?—5.15.

1663. Then how long are you off there?—From that until eight minutes past 7.

1664. And then you go on Dingle again?—Yes.

1665. And get there at what time?—Five minutes to 9.

1666. Then you go to your shed, and what time do you leave duty?—About a quarter-past 9.

1667. (*Mr. Harrington.*) I wanted to ask one question about this runaway train, you led the Commissioners to believe you stopped the train at Camp?—I did.

1668. Did it not run a full mile beyond the junction?—It did not, and I have a lot of witnesses here to prove it.

1669. (*Major Marindin.*) I do not think it very much matters what happened to this ballast train; it was differently made up to this train, except the curious fact that he ran round the curve at 30 miles an hour. Why did you come down with the waggons in front?—I could not tell; it was the guard was in charge.

1670. (*Mr. Morphy.*) Do you consider that a heavier brake van at the rear of the train would have been any assistance towards checking the velocity that day down the gradient?—There was a heavy brake van in the contractor's time, and it used to give us enough to do to pull it up and down.

1671. Do you consider that a heavy brake van would have been any assistance towards checking the train coming down the incline?—Well, I do not know; all the carriages that were on the train acted as brake vans.

1672. (*Major Marindin.*) Supposing there had been no continuous brake on the train at all, a heavier brake van would, of course, have been a great assistance?—Certainly.

1673. But if the train had a continuous brake on all through it did not matter whether the brake van in the rear was heavy or light?—It does not matter; every vehicle acted as a brake van.

1674. (*Mr. Morphy.*) You stated that if you had been driving the train that day you would have allowed her to swing round nice and easy?—I would.

(*Major Marindin.*) After having got his train absolutely in control and approaching this crossing at a proper speed, he releases the brake and lets her go round with her own momentum?

1675. (*Mr. Morphy.*) Supposing O'Leary had applied the vacuum brake after leaving Skirlough Gate, and did not take it off, would you have been able to do that supposing he swore, although I believe he

swore more at the inquest, that he applied the vacuum brake just after leaving Skirlough ?

(*Major Marindin.*) He did not swear that here, but that he never touched the brake until it got into the wreck.

(*Mr. Morphy.*) Have you not the note-taker's evidence of what occurred at the inquest, and Mr. Adams will tell you his evidence is unreliable owing to that contradiction. He swore before the coroner, according to the police note-taker, that after passing Skirlough he rushed the vacuum brake on, and he cannot remember whether he took it off.

(*Mr. Adams.*) What he swore before the coroner was that at some time after passing Skirlough; whether he actually fixed the time then or not we do not know, but we know he has fixed it here, and said that it was just in the moment of the agony he did it, and there was nothing in the evidence before the coroner to contradict that.

(*Mr. Morphy.*) Supposing that before reaching the curve he applied the vacuum brake, could you have swung round it easily ?

(*Major Marindin.*) I cannot understand how in any case a man running at 40 miles an hour can go nice and easy round a three-chain curve.

1676. (*Mr. Morphy.*) You were examined before the coroner ?—I was.

1677. Do you remember stating that if the driver or guard put on the vacuum brake and did not release it, that you would not have the same control of the engine ?—I stated that I could not make sufficient vacuum for the working.

1678. Did O'Leary come up in court and contradict you ?—He did.

Then what was the meaning of his doing that if he understood the vacuum brake ?——

(*Mr. Harrington.*) I think O'Leary has shown he was the most intelligent man in the company's service.

(*Witness.*) It is a different brake in the guard's van from what it is in the Great Southern and Western Railway.

1679. (*Mr. Adams.*) There was a question Major Marindin asked you; if you were going round at 40 miles an hour, as this unfortunate train was, would you take off the brake ?—I would if I could; I would let her swing round, I would not let her skeet.

1680. (*Mr. Huggard.*) When Leary came up in the court to contradict you, did he state that it was on the curve going into the accident he touched the lever ?—I do not remember that.

1681. (*Mr. Harrington.*) You said to me some time ago that you acted once as fireman for the unfortunate man who was killed ?—Yes.

1682. Did you refuse to act with him at any time ?—No, sir.

1683. You never refused ?—No, I could not refuse, because we were trying a new engine, and it was his place to try it.

1684. Did you refuse or tell anybody you refused to go with him on any occasion ?—Never.

1685. (*Mr. O'Reardon.*) You drove the train that followed the special on this occasion ?—Yes.

1686. How was the train you drove made up ?—Composite carriage and guard's van and four waggons of pigs.

1687. Coming along up to the time you were stopped near Camp, had you any difficulty from a greasy rail or otherwise ?—It was raining heavier when I was coming and the rails were washed. A good washed rail is better for driving.

1688. You were on this engine on the Friday previous to the accident, was this engine a good steamer ?—I could not tell you what way she steamed that day.

1689. Was she losing any steam ?—No, except through the safety valves.

(*Mr. Harrington.*) I should like if we could get the amount allowed by the contractor for the repair of these engines.

(*Mr. McCowen.*) We cannot lay our hands on the report, but we can get a copy from Mr. Ivatts.

(*Mr. Harrington.*) Did you take the engines over at the contractor's price and this 10*l.* ?

(*Mr. McCowen.*) Yes, the contractor was to have the use of the engines, and we were to take them over with ordinary wear and tear.

(*Mr. Harrington.*) What I want is the letter recommending the 10*l.*

(*Colonel Rowan.*) I do not think Mr. Ivatts mentioned any sum, he said what should be done; in fact, the only thing to be done to the engine was to turn the tyres of the wheels, and there was a controversy as to what it would cost to get the tyres turned, and we took as a compromise that sum mentioned.

Sergeant William Gilbert, R.I.C., sworn.

1690. (*Mr. Adams.*) Are you stationed at Aunascaul ?—Yes, sir.

1691. Do you remember the day of this accident ?—Yes, sir.

1692. Did you see this train that met with the accident passing Aunascaul ?—Yes, sir.

1693. Were you on the platform ?—No, sir, I was up at my own station, at the barrack; I saw it passing the barrack. Immediately after it I had passed the station going up by Mr. Moriarty's hotel it was going slowly, it stopped then and went back to the station again and came on then. I was going on patrol on the road leading on towards Camp, and I overtook the train about 1½ miles beyond Aunascaul railway station, it was then across the road. There is a crossing on the public road there; it was stopped there when I got up to it.

1694. Was it going backwards and forwards, or at a dead stop ?—It was partly at a dead stop, and sometimes it would go on a little.

1695. Did you go on to where the train was ?—I did.

1696. Did you see the driver or guard ?—I saw the guard O'Leary.

1697. Where was he, in his van ?—Out on the road.

1698. Had you any conversation with him ?—I had.

1699. What was it ?—He made the remark to me that the engine-driver appeared to be a little timid or nervous.

1700. Did he say anything else ?—That is all he said.

1701. Had you any conversation with the driver or anyone else in the train ?—No, sir.

1702. Did it start along after you were there ?—Immediately after, a few moments after.

1703. Did you see the driver ?—I saw the driver; I did not notice anything unusual about him.

1704. Did he say anything about his knowing how to manage or anything of that kind ?—No, your worship, he did not make that remark at all.

1705. (*Mr. Harrington.*) Did you understand these observations had any application to the driver being unable to manage the engine ?—Well, no, then, I did not.

1706. Do you know what was the meaning of his observation about the man being fatigued ?—Timid or nervous, not fatigued.

1707. You do not think he meant any insinuation that the man was intemperate ?—He did not. I saw the man.

(*Mr. Adams.*) That is the common case of all parties that this man was perfectly sober that day.

1708. (*Mr. Harrington.*) That is so, but I want to know what the sergeant understood him to make the observation about ?—The conclusion I came to was that in consequence of the slippery state of the rails and the heavy load he seemed to have a difficulty in ascending the height.

(*Mr. Adams.*) We have the phrase now that was used.

(*Mr. Huggard.*) And he understood it was the slippery rail and the heavy load.

1709. (*Mr. Harrington.*) Was your attention ever directed to any grease or soap being placed on the line?—It was reported to me that it was suspected that something of the kind was applied.

1710. Did you visit the place?—I examined the rails myself and saw no traces of it.

SAMUEL MURRAY HUSSEY, J.P., sworn.

1711. (*Mr. Harrington.*) You were for a time, I believe, a director of this company?—What is called a baronial director.

1712. And you are not a director of the company now, I think?—No.

1713. Might I ask what was your reason for leaving the Board?—The arbitrator appointed by the grand jury made what I considered a very unfair and garbled report.

(*Mr. Adams.*) Had that anything to do with this accident?

(*Mr. Harrington.*) It has with the efficiency of the line.

(*Mr. Adams.*) This must be ruled once and for all, we cannot by any possibility, having regard to the terms of our reference, extend this inquiry into the general state of the line.

(*Mr. Huggard.*) Mr. Hussey might give his own evidence if he has anything to offer as to the state of the hill.

(*Mr. Harrington.*) He has something to offer as to the state of the hill and the state of the rolling stock.

1714. (*To Witness.*) You knew something of the rolling stock which was on this line?—Yes, a little.

1715. Did you know anything about this particular engine, No. 1?—No.

1716. Were you on the board when it was taken over from the contractor?—I think I was.

1717. Can you recollect whether you opposed the taking over of that engine?—As well as my memory serves me, what occurred was that some of us directors thought the engine would be considerably worn out by working for the contractor, and then there was an impartial person appointed to say what should be done to the engines and what money should be given to the company for doing it.

1718. (*Mr. Adams.*) And that was done?—That was done.

1719. (*Mr. Harrington.*) And then they were taken over after that?—They were taken over after that.

1720. What was the amount which was allowed?—I could not tell you; the secretary will tell you that.

(*Mr. Adams.*) As I understand the matter was referred to an arbitrator, and he appears to have been a very skilful person, Mr Ivatt; he awarded a certain sum, that sum was paid and I do not think anything would be gained by going into it.

(*Major Marindin.*) Does it matter what amount was paid to put these engines in order?—We do not know what the state of the engines was before the company got them, they may have required very little to be done to them or a great deal, if this gentleman who examined them thought a very little was required I do not think it matters much to us.

(*Mr. Harrington.*) But if there was a certain amount required to be done to the engine and that was not done.

1721. (*Mr. Adams.*) Do you know as a matter of fact whether or not this engine was repaired?—To the best of my belief it was, they were all repaired. Here is the auditor's report bearing me out, because he says "a large amount to locomotives, wagons, &c., seems to have been done outside the company's premises," and alleges it as a complaint.

1722. (*Mr. Harrington.*) You know the place where this unfortunate disaster took place very well?—I do.

1723. Do you consider the position of the line with the steep gradient and acute curve safe for public purposes?—As far as my opinion goes—it is not worth very much—I should consider it a very dangerous place, the smallness of the money precluded a good line being made. The engineer did marvellous work in getting a line there at all for the money. Every other line in Kerry cost 6,000*l.* a mile, this, practically speaking, only cost 2,000*l.* a mile.

(*Mr. Horgan.*) 3,000*l.*

(*Witness.*) But there was the law costs and the land and everything else.

1724. (*Mr. Adams.*) And the rolling stock would have to come out of that?—My idea is that that absorbed about 20,000*l.*, and of the other 100,000*l.* I doubt if he could have floated it at par, so that, practically speaking, all he would get would be 2,000*l.* a mile.

1725. What interest?—Four per cent.

1726. He would never have floated it at par?—For the Cahirciveen and Kenmare railways, which were made by Mr. Balfour, he gave 6,000*l.* a mile.

1727. You have heard the description given by the witness O'Leary?—I was not by at the complete evidence of any one man.

1728. You heard the evidence read to-day of the various stoppages and attempts to get up the hill, running a distance and stopping and backing again, what conclusion would you arrive at as a practical man with regard to the engine or the driver?—My opinion is worth very little; I should say the engine was overweighted.

1729. (*Mr. Huggard.*) I understand you to say, Mr. Hussey, you voluntarily retired from this position?—I did.

1730. (*Major Marindin.*) You said you considered this curve a very dangerous place? Do you consider that it is dangerous for an engine to go round, supposing it does not go faster than the regulation speed of five miles an hour?—If it went round at a walk I should consider there would not be much danger, but the danger is having it at the bottom of a place where it is not easy to stop the speed.

1731. (*Mr. Harrington.*) Or if the steam became exhausted on that portion of the line and there was no means of working the brake?—It is quite plain if the engine ran away it is a very awkward fence to jump.

1732. (*Mr. O'Reardon.*) Your idea is that this line is built too cheap and therefore is not safe?—It was built too cheap, no doubt.

DUNCAN SCOTT, C.E., sworn.

1733. (*Mr. Harrington.*) I believe before this line was actually formed you were projecting a line for the same district?—I was asked by a committee in Dingle to make a survey for a line.

1734. You had to deal with even this particular part of the line?—I made a survey of the whole line.

1735. And in the survey you made you placed the bridge at a different position on the river?—Yes, I have got the working map.

1736. (*Major Marindin.*) Describe where it was?—It was 500 or 600 yards higher up the valley.

1737. I suppose that would entail somewhat more expense than the construction of the present bridge?—Not very much more.

1738. (*Mr. Harrington.*) You have examined the curves on the present line?—Yes.

1739. In your opinion is this curve dangerous to public life?—Exceedingly dangerous. If taken higher up it could be brought down to the bridge on a level, and the bridge should have a radius of seven chains.

1740. The radius at the curve is how much?—Three chains I have been told; I did not test it.

1741. You are aware that this acute curve is approached by a long series of very steep gradients?—Very steep.

1742. In your opinion anything that would set either the gear of the brake out of order or anything which would impair the working power of the engine coming down that gradient would at all times involve a risk to human life?—Certainly; drivers on all railways do not observe the rule as to speed invariably.

1743. Coming down to this you have practically a length of how many miles of that steep gradient?—Nearly three miles.

1744. So that anything which would impair the efficiency of the engine, or the brake, or anything——

(*Major Marindin.*) I do not think he quite leads us to infer that, that if anything interfered with the efficiency of the engine it would interfere with the working of the brake coming down the incline.

1745. (*Mr. Harrington.*) Have you had any experience of engines?—No practical experience.

(*Mr. Adams.*) Is it not all a question of breaking, the engine had only to run down hill?

(*Mr. Harrington.*) But if the engine had no steam there was no means of applying the brake.

(*Major Marindin.*) Steam does not apply the brake, what applies the brake is atmospheric pressure, steam is only used to maintain the vacuum, which is the stored-up energy; it might very well happen that an engine would be so short of steam that it could not pull up a heavy load up an incline, but yet would have plenty of steam to maintain an efficient vacuum going down it.

(*Mr. Harrington.*) That may happen, but the other may happen also that the supply might become so exhausted that it had no steam at all we have seen cases where it has stopped on the level. There is no fuel and no water.

1746. (*Major Marindin.*) You say that this is a very dangerous curve, and the danger is due in a great measure to its position which makes it possible that proper speed at that curve will not be maintained by an engine running down to it?—I never knew on any line that the drivers always maintained a proper rate of speed.

1747. If a proper rate of speed is maintained round that curve, do you think there is any danger in running round it at five miles an hour?—I think there is.

1748. At five miles an hour?—I think there is.

1749. (*Mr. Huggard.*) What extra cost, Mr. Scott, to amend the curve?—A distance of about 1,000 yards both sides, and if any part of the line was made for 3,000*l.* a mile, 3,000*l* more.

1750. (*Mr. Harrington.*) Mr. Scott's answer is that if this bridge had not been made an additional length of line would be necessitated of about 1,000 yards?—The bridge would be the same expense.

1751. (*Major Marindin.*) Would it be 2,000 yards or 1,000?—1,000 or about 1,100 yards.

TIMOTHY O'FLAHERTY sworn.

1752. (*Mr. Horgan.*) You are an owner and occupier?—Yes.

1753. An owner under Lord Ashbourne's Act, bought from Mr. Hussey?—Yes.

1754. And you have largely to contribute to the guarantee for this line?—Yes.

1755. You have been travelling over this line almost since it was made?—Very often I did.

1756. And you know this bridge?—I do well.

1757. And you know this curve?—I do.

1758. Now when you pass this bridge and curve, you and those coming from Dingle, do you feel comfortable?—No. I stated here at the late inquiry before General Hutchinson, he asked me what I would suggest, and I said, "Get rid of the officials or tear up "the line." I say now it is the intention of the ratepayers of Corkaquiny to tear up the line and pay the guarantee; I share that with them rather than be involved from day to day.

(*Mr. Huggard.*) These are the people who would not scap the line?

1759. (*Mr. Horgan.*) This particular curve have you seen it since it was broken down?—I saw it two days ago. This is not the road at all that it was to go, they deviated from the former road.

1760. Did it come before the Presentment Sessions at Dingle?—It did.

1761. And the gentlemen that went from Tralee told you you would never have to pay anything for it?—Oh, no, they did not; but there was a deviation from the original road.

1762. Was there a deviation at that point?—In several places.

1763. (*Major Marindin.*) Was there a deviation at that point?—There was; that was to go above a good bit.

1764. (*Mr. Horgan.*) You say that there were several deviations from the original plans that were laid before you in Dingle?—I do.

1765. At this particular point, because we cannot go outside this curve, at this particular point was there a deviation and change of the road?—I remember that Captain De Moleyns and others——

1766. (*Major Marindin.*) Now will you answer the question, please, plans were put before you?—There were.

1767. Was any deviation made at the particular point where this accident happened?—There was.

1768. From the plans that were laid before your Sessions?—Quite right.

(*Mr. Adams.*) Is this so?

(*Mr. Huggard.*) It is not; the man is quite at sea.

(*Witness.*) I have Capt. De Moleyns to prove it as well as myself.

1769. (*Mr. Horgan.*) Is it of Mr. Scott's plans you are talking?—It is.

1770. No, but talking of Mr. Hickson's plans, was there a deviation from Mr. Hickson's original plans?—I do not know.

EDWARD HARRINGTON sworn.

1771. (*Mr. Harrington.*) You have travelled pretty frequently on this line between Tralee and Dingle?—Yes, a few times.

1772. I believe you advocated the construction of the line in the commencement?—Well, the construction of a line.

1773. You know the position where this accident took place?—I do.

1774. You have been on the scene of the accident?—On the evening, and I went with the coroner and his jury as other pressmen did.

1775. When you got to the scene of the disaster were there men employed repairing the road?—Yes, there were men relaying sleepers; I counted about 22 sleepers.

1776. Now, from your knowledge of the curve,

taking the acute curve, the steep gradient leading into it, in your opinion is it a very dangerous place for life, this combination of the acute curve and the stiff gradient?—I have not hesitated to describe it as a death trap. This curve of a three chain radius, 198 ft. I believe it is actually 200 ft., but that at the end of a gradient, a continuous gradient of three miles, from, I think, the $10\frac{3}{4}$ post to the $13\frac{3}{4}$ post, I think accidents cannot be avoided there.

1777. (*Mr. Morphy.*) It is impossible to avoid it?—It is impossible to guarantee that accidents will not happen.

1778. (*Mr. Harrington.*) You saw the convex?—You are speaking of the cant of the rails, yes, on that evening I asked Mr. Hickson what was the cant, I believe super-elevation is the technical word; Mr. Hickson got a board and went and set his eye to take the cant. I said I could nearly give as good a guess at it myself. He turned to Mr. Peet, who told him it was $3\frac{1}{4}$. I said, "That seems rather small for this curve," but of course it has turned out in evidence now that the cant has come up to 5 inches actually.

1779. (*Major Marindin.*) Do you suggest that it has been altered?—I believe that in the relaying of the sleepers that evening the men packed the sleepers and relaid the new sleepers to the cant.

1780. That may be so on the sleepers that were disturbed, but we have it in evidence that the sleepers were not disturbed only at the commencement of the curve, where they had been disturbed by the engine leaving the rails, and it is impossible for me to imagine that the cant can have dropped suddenly from the amount now shown of $4\frac{3}{4}$ ins. to $3\frac{1}{4}$ ins. before the accident, and you say Mr. Hickson did not measure it then?—He did not measure it then, though the men were relaying it; it appears to me he had no means of measuring it. I have no doubt that the cant was at that moment the same as it is now.

1781. (*Mr. Harrington.*) It was being relaid without actual measurement?—Yes.

(*Major Marindin.*) That an experienced ganger would do a great deal by his eye, he has his cant on the part of the line that is not disturbed.

(*Mr. Harrington.*) This is a very particular place and curve, and the gangers are not very experienced men, as we have seen from the specimen here to-day.

(*Witness.*) I wanted to say there were a lot of these bolts about.

1782. (*Mr. Harrington.*) You know these bolts that Mr. Hickson produced, did you see a number of them on the spot?—They were there, old and new, on the place, and there were some 50 people moving up and down.

(*Major Marindin.*) I may say for Mr. Adams and myself that we do not attach any importance to that.

1783. (*Mr. Huggard.*) Do you suggest that the super-elevation or cant, or whatever it is called, has been altered to something different to what it was before the accident?—I could not say whether on the bridge part the ends were not packed.

1784. I want to know if you intend to convey to the court that in your opinion it is altered to something different from what it was?—All I can say is that it appears to me——

(*Major Marindin.*) I think Mr. Harrington has said to me he did not suggest it has been altered, but that there was not sufficient precaution taken at the time to see that it was laid even with what it was before.

(*Mr. Adams.*) He gave one answer absolutely favourable to you, that the cant was then the same as it is now.

(*Witness.*) I saw the men at work, and there was no spirit level or instrument by which the exact cant could be ascertained.

1785. (*Mr. Huggard.*) Then I understand the point of the evidence is a complaint of the company for not having proper instruments?—The point of my evidence is that I wish, as a resident of this locality, as a cess payer, and as one concerned for human lives as well as my own,—I wish that those should be made safe for public traffic at whatever expense it may be.

1786. I want to know if you are making a complaint against the company?—My complaint against the company would be too general.

1787. (*Major Marindin.*) Mr. Harrington explains what he means, that at the time there was nothing on the ground to show the men were laying the cant as it was before?—I must do them the justice to say they had plenty else to do, and they were not bound to produce it for me.

(*Mr. Adams.*) He has stated what he saw; was there a spirit level there?

(*Mr. Huggard.*) You must know you are stating a sufficient cause of complaint to make the company guilty of negligence and to fix persons with responsibility.

(*Mr. Adams.*) How can any negligence after the accident affect them?

1788. (*Mr. Morphy.*) You have stated that you consider this as a death-trap, and I quite agree with you. Major Marindin has suggested more than once that if the train only went round at the speed of 5 miles an hour it might go round safely. With the disposition to disobey orders to which we are all subject, do you think under any circumstances the trap ought to be allowed to remain?—I think not; if you have your cant so slight as to carry it round safely at 5 miles an hour the cant that would carry it at 40 miles an hour would topple the train into the river at 5 miles an hour.

(*Colonel Rowan.*) On going out to the ground that morning it occurred to me that the outer rail might be depressed, and I drew Mr. Hickson's attention to it, and we examined it carefully, the morning after the accident, and we could find no trace of any depression.

(*Mr. Harrington.*) Did you apply the spirit level?

(*Colonel Rowan.*) No.

(*Mr. Peet.*) I examined the cant and it was perfectly accurate.

(*Major Marindin.*) There was a gang relaying it after the accident?

(*Mr. Peet.*) They relaid part.

(*Major Marindin.*) Was it the regular gang?

(*Mr. Peet.*) A repairing gang, two gangs came together.

Had they a spirit level with them?—

(*Mr. Peet.*) I cannot answer that. Mr. Hickson was on the ground. The ordinary cant can be given without a spirit level with the eye.

GEORGE HICKSON recalled.

1789. (*Major Marindin.*) Do you know whether that relaying gang, relaying after the accident, had a level to take the cant?—No, sir; the cant was not altered at all, the sleepers were simply put in underneath when the old ones were taken out.

1790. As a matter of fact they had not a spirit level on the ground?—No.

1791. When was the first time you applied a spirit level after the accident?—On Thursday, the 25th.

1792. Would it be possible for a gang having portion of the curve laid to a certain cant to relay a portion which had been broken up to an even cant; would they require a spirit level to do it?—I think a good platelayer could do it himself without it.

1793. (*Mr. Harrington.*) You would not, I am sure, Mr. Hickson, commit yourself to the fact that the man we saw in the witness chair last evening was an experienced ganger?—He is not the man; Shea was the man.

1794. (*Major Marindin.*) He was the ganger of the platelayers in charge of that particular length, but this was a special gang sent out to relay ?—Yes.

1795. Who was in charge of that ?—I was in charge and Shea was under me. Shea was the next man to the man that was killed.

After an adjournment for lunch.

MICHAEL O'FLAHERTY SLATTERY sworn.

1796. (*Mr. Harrington.*) You acted for a time, I believe, as corporate director on the board of this railway company ?—For 12 months.

1797. I believe under the statute there was no provision for any representation of the Commission on the board ?—No, but the company required to cross the street, Rock Street, and the Town Commissioners would not give consent unless they appointed a corporate director, and I was selected by the Town Commissioners then to represent them on the board. After 12 months they thought to select one themselves.

1798. (*Major Marindin.*) Who did ?—The railway company not leaving the selection to the Town Commissioners, they thought to have their own nominee, and the Commissioners would not be satisfied unless they had the selection and appointment of one of themselves.

1799. (*Mr. Adams.*) Are you still the director ?—No; they allow no corporate director now, notwithstanding the guarantee of 6,000*l.*

(*Major Marindin.*) We are very unwilling to interrupt, but anything as to the general composition of the board or the general affairs of the company we have no warrant to hear at all.

1800. (*Mr. Harrington.*) We are not going into these things, I only wished to introduce Mr. Slattery to you. You have travelled pretty frequently by this line ?—I think, as the Commissioners say, Mr. Harrington, if you just allow me to give my evidence in accordance with what the rules of the inquiry are. I wish to keep close to it. While corporate director I was going to Dingle and from what I heard of this bridge and the curve, I walked from the junction round the bridge.

1801. The bridge and curve we are speaking of ?—Yes, and from what I saw, I saw there was no check-rail on at the time. From what I knew and learned the iron of the curve was likely to expand in warm weather, and I considered braces to the rails were necessary also. At the next meeting of the board of directors, which I attended, I brought this matter before the board, and I inquired from their own chairman, and he inquired, and Mr. Hickson replied, as to what amount of money was to the credit of that part of the contract with regard to the bracing of the curve preventing the rails expanding, and he found there was a large sum still.

1802. (*Major Marindin.*) Was that before the opening of the line ?—Before the opening of the line, a large sum was unexpended for braces. Mr. Hickson got instructions that there should be further braces put on. I was going to Dingle soon after the line was opened; that was February, and the line was opened in March, and I was going about the beginning of April. I travelled by the railway on this occasion, and although it was not a very inviting day got out at the junction and said I was anxious to see whether these braces were put on.

1803. Was this after the line was opened ?—Immediately after, and I got on the engine, being a director representing the Town Commissioners at that time, and I was touched on the shoulder and told that there were instructions given that I should not travel on the engine. I told my business what I wished to go for. The station-master came to me, John Fitz, and said that he got instructions not to allow me to travel outside on the engine. I told him it was not an inviting day to travel outside, but I wished to do my duty for the Town Commissioners and the ratepayers, and see that the bridge was properly stayed.

1804. (*Mr. Adams.*) Was it properly stayed ?—I would not be allowed, I was taken off the engine by the orders of the station-master.

1805. It was quite right to take you off the engine, no one should travel on it but the engine-driver ?—At all events I saw it the day after the accident, and not much better still than it was before, except one check-rail was on, the stays was not much better.

1806. (*Mr. Harrington.*) Can you tell whether that amount of money was expended during your time on the board ?—I could not say.

1807. Now you travelled also with Quinn on some one occasion on which he had to divide the train ?—Yes, Major Spring was the arbitrator on that line as well as on the Headford, I was on the Cahirciveen, and we travelled from the other side of Glen-na-galt: it was a special pigs train. I went to Aunascaul by the ordinary train, and I travelled by the special back. We came to the foot of Glen-na-galt, the other side. This was a new engine by which the directors offered wonderful advantages to the public, an oil engine, worked by oil, and at the other side of Glen-na-galt it backed, and after repeated backings and slidings we were asked to come out and lighten the load. Ultimately Quinn came and insinuated that the wheels were greased or something. He made some insinuations, and I said, "The best thing you "can do is to take off the goods and come back for "us." We remained on the side of the road until he came back from the junction.

1808. (*Mr. Adams.*) You were not asked to shoulder the train up the hill ?—We were not.

THOMAS ALEXANDER GRAVES sworn.

1809. (*Mr. Harrington.*) What were you while you were in the employment of the company ?—I was locomotive foreman and occasional driver when circumstances required.

1810. (*Major Marindin.*) The position held recently by the poor man who was killed ?—Yes, precisely.

1811. (*Mr. Harrington.*) From what company did you come into the employment of this company ?—From the Kanturk and Newmarket; it is now incorporated with the Great Southern and Western Railway.

1812. It was not then ?—No.

1813. (*Major Marindin.*) Where did you come from before that ?—I had been at sea as a marine engineer, and before that I had been on the Great Southern and Western Railway; I have copies of my testimonials here (*produced*) from Mr. McDonald.

1814. Yes, I see 13 years on that line ?—I was longer than that, I served my time there; I was a pupil to the chief engineer, Mr. Miller.

1815. He says you were district superintendent, were you a driver before that ?—I had been driving; I acquired the knowledge of driving as a privilege; I was an indentured pupil, and it specifies I was to be taught the management and guidance of engines.

1816. You learned driving ?—I drove eight years consecutively on the Great Southern and Western Railway.

1817. As a driver ?—Yes.

1818. (*Mr. Harrington.*) When did you come to this line ?—About two months before the line opened.

1819. How long did you remain in the employment of the company ?—Until May 1892.

1820. That was altogether how long ?—About one year and nine months.

1821. Did you drive frequently over the line ?—I have driven trains 73 times. I have a record here.

1822. Was there a means of keeping a record in the office ?—It is from private notes I took this ; this is exclusive of taking single engines over it.

1823. (*Mr. Adams.*) Is that over the Dingle line ?—Over the whole system, more frequently on the Dingle line, the main line.

1824. (*Mr. Harrington.*) When you were engaged it was by the directors ?—Yes, by the company.

1825. When you were engaged by the company did you show them that testimonial certifying your capacity as a driver ?—I did not, not before the board, but in communication with the manager, who was acting as secretary, who had a good recommendation from Mr. Ivatt, locomotive superintendent of the Great Southern and Western Railway.

1826. You know the position on the line where this unfortunate accident occurred ?—Oh, well, I came over it many and many a time.

1827. Did you always consider it a point of danger ?—Yes ; I cautioned the drivers before the line opened. I told them that if they were ever to allow a train to get beyond five miles an hour, I said to them as we were passing over the bridge, "If you do you will go into that hole," and that is where they did go. At the same time I was braking the train down with the hand brake alone.

1828. Had you any instructions from the company as to the rate of speed down that incline ?—None whatever, never got any ; there is a general rule in the rule book which specifies the caution to be used in descending all inclines, but it did not mention that incline in the book I got. I never got but one rule book, one edition.

1829. Have you the book ?—No, I left it behind me ; but I can recognise it. (*Book similar to Quinn's produced.*) I never had one of those in my life, but a large red book (*identifies book*). I had seven of those. I gave one to each of the three drivers and one to each of the three firemen before the line was opened, and kept one myself. I never saw one of the pamphlets all the time I was on the line. I repeat that, and, moreover, I can produce a man who has acted in the capacity of a guard on the line who never had a rule book in his life of any description.

1830. You were in the employment of the company up to August 1892 ?—Yes.

1831. A report of General Hutchinson's was given to the company on 17th March 1891 regulating the rate of speed down this incline ; do you tell the Commissioners that you drove engines frequently during that period down that incline ?—I did.

1832. In the period intervening between March 1891 and your discharge in August 1892 do you tell the Commissioners that you frequently drove engines down that incline and over that portion of the line ?—Yes.

1833. And all that time you never had a copy of any rule given by General Hutchinson regulating the speed down that particular slope ?—No ; I do not know whether General Hutchinson is the author of that book or not, but that is the only one I got.

(*Major Marindin.*) The order issued by the Board of Trade embodying the recommendations of General Hutchinson on the 13th May 1891 is the authoritative order.

1834. (*Mr. Harrington.*) Now glance at that order, do you see two miles an hour crossing Edward Street and Nelson Street, Tralee ; read that down. Does not that apply to the bridge at Glen-na-galt ?—It does, but I never got a copy of that.

1835. Did you during all the time you were in the employment of the company ever get a copy of that ?—Never.

1836. Had you to sign for any rule book you got ?—No, no one can produce a signature that I ever gave, but I got the signatures of the enginemen and firemen at the time that I gave it.

1837. You are quite sure that a copy of the rules you have read now you have never got ?—No, as I say once for all I never got any but the red book.

1838. Either verbally or in any other way did anybody ever direct your attention, when driving engines there, or tell you to direct the attention of others, to the rate of speed approaching this curve ?—No, no one ever did.

1839. Was it your judgment and experience ?—My own judgment and experience that suggested to me what I said to the drivers. I also told the manager, Mr. Parkes, so. I told him : "If ever we have a runaway " on that you may as well close the gates and put up " a notice to let." He will remember that, I am sure.

1840. Had you any experience of the poor man who was on the line after you ?—I never saw him in my life, but I knew where he came from.

1841. Might a man be a fitter all his life and yet not be competent to take an engine out ?—Certainly, a man may serve all his time in building and repairing engines, and never would be capable of going as a driver until he had had actual experience on the road ; he should first learn to be a good fireman and then afterwards be a driver.

1842. As a matter of fact, it was a portion of your apprenticeship ?—It was. I can produce my indentures and let you see them.

1843. Did you answer an advertisement when you came into the employment of the company ?—No, there was no advertisement. I heard they wanted a man of my description and I wrote to Mr. Parkes.

1844. (*Mr. Huggard.*) Are you familiar with this paragraph : "That owing to the neglected state in " which we find our locomotives we dispense with Mr. " Graves' service and that he receives a fortnight's " pay up to the 27th August ?"—Yes, I remember that, but it was not given to me in that way. I will show you the secretary's letter.

1845. You recognised the resolution when you heard it ?—I do, but it was a misrepresentation because the engines were in a better state than they are now. I had only one man to assist me and they have five or six now.

1846. Were you dismissed on those grounds ?—That was what was said.

1847. Have you at any time since then made overtures for getting back into the company's service ?—Never.

1848. Do you swear that positively ?—I will. Never, either by word of mouth or in writing.

1849. Beyond this slip of paper beautifully printed, and headed "Testimonials," can you produce any certificate to you that you are a competent driver ?—I can by referring to the books of the Great Southern and Western Railway.

1850. We are not in a position to do that ; can you produce any testimonial that you are a driver ?—I could, but I have not it here. I never asked for it ; it was patent to everyone. I can produce men who saw me driving.

1851. Is not your insinuation here that a man ought to have such a testimonial ?—No, I do not insinuate anything of the kind.

1852. Then a man ought not to have it ?—Oh, he should have it.

1853. Did you ever get one ?—No, I will tell you how it is.

(*Mr. Adams.*) I beg your pardon, all he said was that a man may be a competent locomotive fitter and still not able to drive an engine.

1854. (*Mr. Huggard.*) I understand that very well, but the point I want to arrive at is that there is not on the Great Southern or any other railway, so far as I am aware, a practice of certifying a man as a driver ; this man, with all his experience, and it is long, has not got one. We say that Redshaw came from the Great Northern in the same way, and did not get one because there is no such practice ?—Ordinarily

speaking, engine-drivers are trained on the lines on which they work, they begin as firemen and remain for six or seven years.

1855. (*Major Marindin.*) Begin as cleaners, do not they?—Sometimes they do and sometimes as fitter's assistants.

1856. (*Mr. Huggard.*) Assistant firemen and then firemen?—And after a time, if he conducts himself satisfactorily, the locomotive superintendent may promote him as driver. The responsibility rests with the locomotive superintendent, who is the best judge of whether they are fit or not; that is the certificate.

1857. As a rule now before a man is in a position to fill the post of locomotive superintendent, he must be able to tell whether another man can drive or not?—He must. A person in the position of a locomotive superintendent, before he appoints a man to drive a train, must be competent and should be competent to know whether a man could drive or not.

1858. Should he himself be able to drive a train?—He should.

1859. You say you were eight years training on the Great Southern and Western Railway?—I was eight years acting as a driver, leaving training out of the question.

1860. I do not want to do that; before you became driver what experience had you?—I was a fireman.

1861. For how many years were you a fireman?—About nine or ten months.

1862. Do you mean to say you developed into a driver in nine months?—I did, and the reason was because I had served my time to the construction and building of engines and as a mechanical draftsman, but the cleaners or firemen do not do that. It is well known that a man who is capable of constructing an engine or repairing one——

1863. That is a fitter?—Yes, requires less practice as a fireman.

1864. A man who is a fitter can more quickly and more readily and more properly learn to be a driver than an outsider?—Undoubtedly.

1865. And you would say that nine months upon an engine as a fireman would be sufficient to make you a driver for that great system, the Great Southern?—It did so.

1866. And you thought you were a competent driver?—I did not, but those who were my superior officers did.

1867. You did not?—It was not left to me, but the persons who placed me in that position were.

1868. And you all agree that you were competent, and I do not dispute it?—I never killed any person, nor did I on the Dingle Tramway ever kill anything. Your phrases are ironical.

1869. I say you are a most competent driver?—Better judges than you have said that, and not on a miserable system like this.

1870. You suggested your going to the inquest?—I was told to come here.

1871. Who brought you here?—I came here this morning, and as I have no status I went away. I was told I might be wanted.

1872. Who brought you to the inquest?—I had an interest in it, the same as the general public.

1873. Will you swear you did not communicate your evidence to any solicitor or engineer as a witness against the company?

(*Mr. Horgan.*) I object to that, that is privileged.

(*Witness.*) When?

1874. (*Mr. Huggard.*) Before the inquest?—I did not.

1875. At the inquest did you hear the evidence of Mr. Parkes?—I did not. I took so little interest in the thing that I went away after my own evidence.

1876. I suppose you thought that was the important part, at any rate Mr. Parkes swore that with his own hands he handed you a bundle of these books?—That is untrue.

1877. And if he comes up again and swears it, it will be untrue also?—He can swear it.

1878. In any shape or form, in any printing was this matter communicated to you, the contents of this book?—When?

1879. When you were in the company's service?—I never saw the rules contained in that.

1880–1. In no shape or form?—No, until now.

1882. Did you ever see that document (*produced*)?—Yes, I saw that posted on carriages, but I never got a copy of it.

1883. Was it posted on the engine you were driving?—No.

1884. Are you not aware it contains the same rules as in the books?—No, I never saw that book, and therefore never could compare it.

1885. Did you ever take the trouble of reading that?—I read it through.

1886. What was it posted in the carriages for?—I could not say, except that the passengers, when they stopped on the road, might while away the time with it.

1887. This is a very important matter; were you not locomotive superintendent on this line?—Well, practically speaking, I was locomotive foreman with my coat off and sleeves turned up, and one man to assist me.

1888. Were you not in charge of that department?—I had nothing to do but simply repair the engines.

(*Mr. Adams.*) Does that paper contain the passage about five miles an hour?

(*Mr. Huggard.*) Yes.

(*Mr. Adams.*) Then he read it and there is an end of it, whether he got it in black or brown.

(*Mr. Harrington.*) He does not give evidence that he got it.

1889. (*Major Marindin.*) He says he never saw any rule regarding any relaxation of speed at any point; he now admits that he has read that yellow document through?—Yes, but in the rule book it does not refer to the incline.

1890. (*Mr. Huggard.*) If I was not interrupted by Mr. Harrington, I was going a step further. In your position as locomotive foreman you were over the drivers, and if a driver had to be sent out at any moment you were the man to send him?—No, the manager appointed them. I can show copies of his letters appointing them.

1891. I know the appointment, but who arranged for each driver on each particular morning?—There was no arrangement made every morning, the drivers were fixed in their particular runs, and if there were any specials, or if a driver fell sick, the manager appointed a man in his place and told me of it.

1892. Did you not tell us you were instructing different drivers as to the speed coming down the hill?—Before the opening of the line.

1893. Did you call their attention to the fact that they ought not to come down the hill at more than five or six miles an hour, you thought?—Before that paper you have in your hand was printed.

1894. What is the date of this?—I do not know.

1895. How do you know it was not printed?—It was not posted in the carriages until long after the line was opened.

1896. When would you say this was posted?—I should say I have not seen it for fully six months after the line was opened.

1897. To say that it would be posted in the carriages before the line was opened would be untrue, and anyone who swore so would be telling an untruth?—I mean a day or two before, when the line opened everything should be ready and properly prepared.

1898. When did you leave the company's service?—12th August 1892; I told you that before.

(*Mr. Huggard.*) The date of this is 13th May 1891, which is within a month of the time the line opened.

1899. (*Mr. Morphy.*) Do you consider that if you had been driving the train that day you would have saved it?—I do consider that if I had been driving the train the occurrence would not have taken place.

I would not have descended the incline at the speed the guard says.

1900. Could such a thing occur as a runaway train?—Yes, from the incompetence of the driver.

1901. That is not quite fair, because my question included other accidents?—Do you mean a train to run away like a horse would run away?

1902. Yes?—I never heard of it.

1903. Could such a thing occur as a train getting out of control without the fault of anybody?—I do not think so, I never heard of it, and I have travelled over the principal lines in Great Britain and Ireland.

1904. Do not engines get wrong suddenly?—Not always.

1905. I am not saying always, I said sometimes, on a sudden?—A thing may be wearing out from day to day before it shows any signs.

1906. Precisely so and many other reasons?—Sometimes the thing will snap suddenly.

1907. Poor Redshaw took your place?—He did; he did not immediately succeed me, another man did and he left.

1908. He occupied up to his death the position you had been dismissed from?—Yes.

1909. And the pith of your evidence here to-day is—no one can be misled—that he was the cause of the accident through incompetency or otherwise?—I would say the man was incompetent from want of experience.

1910. That is your generous evidence?—I am sorry for the man.

1911. You have stated to the court you consider an efficient fitter would in a short time acquire——?—He would if he was intelligent.

1912. Acquire the practice of an engine-driver, do you infer Redshaw was not intelligent?—I never saw the man; but he never had any driving experience prior to his coming here, it is contrary to the practice of the Great Northern. I have been a district superintendent of a railway myself and made my own drivers, and I can prove that no locomotive superintendent on a line like the Great Northern will ever take a fitter from the workshops and put him to drive a train, no matter how competent he may be.

1913. Did you ever hear of a runaway engine on the Great Southern and Western Railway?—There might have been since I left.

1914. What part of the engine is the throttle valve?—I never heard of such a thing on a locomotive.

1915. Did you ever say yourself that through a throttle valve getting wrong an engine on the Great Southern and Western Railway had run away?—I never heard of such a thing on a locomotive. I have on a marine engine or a stationary engine.

1916. Did you ever say to Mr. Peet that owing to the throttle valve on the engine getting choked it ran away?—I never remember.

1917. Will you swear you did not?—I will not swear I did not, but if I said it it was only in fun; I will not swear I did not say it.

1918. If you did it was a joke?—It was because there is not such a thing on a locomotive. Might I ask Mr. Peet did I say it? It seems to me ridiculous.

1919. I think you told us at the inquest, assuming that the engine and the train got out of control owing to the slipperiness of the rail, you stated at the inquest that if it had gained that high rate of speed from any cause, whether the wheels were revolving or not, when it came to the curve it was bound to go off?—Certainly when it acquired a speed of 40 miles an hour.

1920. Therefore, assuming that through any unavoidable cause that velocity was got up, you do not believe that the engine-driver by any manipulation of the brakes could have saved the train?—I told you what I conceived was——

1921. (*Mr. Adams.*) Do not you agree that if by some cause or other, it matters not what, the train got a velocity of 40 miles an hour no human being could save it?—No human being could save it.

1922. (*Mr. Morphy.*) Or 30 miles?—Or 30 miles. If he started from the top of the bank at a speed of 10 or 15 miles he could not have got round safely.

1923. What is the least rate of speed at which it would have been impossible to save the train?—I know the permanent way was good from my own experience. I have not seen the place since the run off, but I know the place very well indeed; it is an S curve, a curve to the left first and then to the right. It shows the permanent way must have been in good order when at that high rate of speed he came down that incline and went 75 feet on the curve before he went off.

1924. That is not my question. My question is what is the least rate of speed going round that curve at which you say it would be impossible under any circumstances to save the train?—He could go round it at 10 miles or 15.

1925. That is not my question; it is the reverse. If the train was going round at 30 miles an hour, would it be possible to save it?—I do not think it would.

1926. It it was going round at 25 would it be possible?—It might if the permanent way was as good as it is.

1927. (*Mr. Harrington.*) I have a copy of Mr. Ivatt's report here, but first I should like to ask you were you, as a matter of fact, summoned to the coroner's court?—The coroner sent for me; he told one of the constables to tell me that the jury wanted me.

(*Mr. Harrington.*) Now I will read the report of Mr. Ivatt as to the state of the engines, which I have now got:—

Great Southern and Western Railway,
Locomotive Engineer's Office,
Inchicore, Dublin,
January 28, 1891.

To the CHAIRMAN and DIRECTORS of the Tralee and Dingle Light Railway.

GENTLEMEN,

I INSPECTED the rolling stock of your railway at Tralee on January 23rd.

Engines.

No. 1.—The flanges of the trailing wheels are worn sharp, and ought to be turned before the engine is allowed to work; this will necessitate the turning up of all the coupled wheels.

The flange of left wheel of pony truck is also very much worn, and requires turning.

The pony truck on this engine sets to the left, the left wheel being worn very much more than the right.

I recommend a careful examination of the traversing arrangement of this truck when the engine is lifted.

It is of the greatest importance that the pony trucks on these engines should be kept as free as possible, otherwise grinding away of the wheel flanges will result.

The vacuum brake on this engine is not in satisfactory order, and should be overhauled.

No. 2.—The flange of the left trailing wheel of this engine is worn too sharp, and should be turned up before the engine is used. This will require the turning up of the whole of the coupled wheels as in No. 1.

The right wheel of the pony truck is worn, and should not run many miles before being turned. The truck on this engine is inclined to bear to the right, just the reverse of that under No. 1, and my remarks about the trucks being kept free to radiate apply with equal force to this one.

The vacuum brake on this engine I found to be in fairly good order, with the exception of the left brake cylinder which leaks off in three or four minutes.

No. 3.—The tyres on this engine are in good order, and do not require turning. The slide blocks are slack and ought to be lined.

The vacuum brake is defective and requires overhauling; the small ejector, when tried on the 23rd, would only maintain 16 inches of vacuum with 130 lbs. pressure of steam.

The levers on the brake shaft require adjustment at present, the left lever is in advance of the right, and consequently the vacuum pistons do not rise equally.

No. 4.—This is a somewhat different type of engine, and has apparently done very little work.

The vacuum brake requires overhauling, it is not fit to work in its present state; the small ejector will not maintain 10 inches of vacuum with 100 lbs. of steam, and the left vacuum cylinder is stuck, or not working.

With respect to the engines generally, they are in good working order, except as regards the items mentioned above. I was not able to make a close examination of the boilers, and this was not necessary in view of the examination just made by the Boiler Insurance Company.

The most serious repair required is the turning of the wheels on engines Nos. 1 and 2.

With regard to the vacuum brake on the engines, probably taking to pieces and cleaning and adjusting the various parts will put matters right, but this should be done before the engines go to work.

The cow-catcher on No. 4 was the only one I saw in position, this stands rather too high over the rail.

I would recommend that two pieces of plate be bolted on just over each rail, somewhat as shown on the sketch herewith, so as to come within about two inches of the rail; the same thing should be done with the other cow-catchers if they stand as high over the rail as that on No. 4.

The paint on all four engines is bad, and the speed indicators on all are more or less out of order.

The hanging covers, or screens, round all the engines are loose and badly fastened at the hinges, and the bottom catches, and in some instances the screens themselves, require overhauling and repair.

Details, such as missing side chains, sandpipe off No. 3, or missing rings for driving speed indicators, should be replaced.

Coaching Stock.

The carriages are new and have not yet run.

Waggon Stock.

The wheels under nearly all the waggons are in very bad condition, from being worn and having flat spots on the tyres, and those under the following waggons ought not to be allowed to run without being turned. Waggons Nos. 3, 5, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25. The same remarks apply to the wheels under both the long bogie timber waggons.

Vacuum Brake.

The automatic vacuum brake as fitted to your stock will, if kept in proper working order, enable the trains to be handled quite satisfactorily on the steepest gradients of your line.

I had an opportunity of trying a train of four waggons and four carriages upon a gradient of 1 in 30.

On testing the brake on four waggons and eight carriages (made up as one train), I noticed that the vacuum cylinder on the third-class brake van was not working, and that the brake leaked off one of the composites, and also off three of the waggons sooner than is desirable; on the remaining vehicles the brake held tight for an hour after its first application.

All the vehicles, carriages, and waggons require to have wire cords attached to the release trigger of the vacuum brake, and brought out to each side of the vehicle, so that on pulling the cord the brake can be released by hand when required for shunting.

I am, Gentlemen,

Yours faithfully,

(Signed) H. A. Ivatt.

Locomotive Works.
Inchicore, January 28, 1891.

1928. You knew this engine?—I did.

1929. Were you acquainted with it before it was taken over from the contractor?—Yes.

1930. Can you tell me whether all the repairs specified in that report were done to the engine?—They were under my supervision, the wheels were turned up, and I myself freed the pony truck with my own hands.

1931. Can you give the Commissioners some idea of the vacuum brake? Was it constantly going out of order?—Well, not very frequently, but sometimes there would be leakages in the vacuum tubes, and that would affect it considerably; they have that everywhere.

1932. So early at all events as the time at which it was taken over from the contractor, the attention of the company was directed to the condition of the vacuum brake?—I must explain that during the contractor's time they never used the vacuum at all; they had the hand brake on the engine, and the waggon stock was not fitted with the vacuum cylinders, some of them were, but it was not in working order, so during the contractor's time they never used it, so they told me, and I believe from the appearance of the waggons they were telling me what was right. The men engaged in the construction used to what is technically termed sprag the wheels, they would take an iron bar and stop them.

1933. You did not drive that engine yourself very frequently?—I have driven every one of them, and I can find the numbers and dates.

1934. Hit on one date on which you drove that engine, No. 1?—I find on this list that I only entered the dates; I did not enter the number of the engine, but I can let you have it.

1935. You were asked some questions by Mr. Huggard as to the position of a locomotive superintendent, as a matter of fact in the sense in which a locomotive superintendent is understood on a railway line; were you ever locomotive superintendent?—No.

1936. Was your successor?—I believe he was. I believe he never took his coat off. I heard so. He never had occasion to work.

1937. He had several men under him?—He had seven or eight.

1938. There is a clear distinction between a locomotive superintendent and a foreman?—There is.

1939. (*Mr. Huggard.*) You identify this document, your own report, as to what was done to engine No. 1?—Yes.

Date.	List of Repairs done to No. 1 Engine up to and including June 4th.	Time.
April 4	Disconnecting motion - -	½ day.
„ 5	„ brake mounting and dome-joint.	1 „
„ 6	Taking out trailing wheels -	1 „
„ 7	Taking out driving wheels and lifting engine.	1 „
„ 8	Lifting engine to take out leading wheels.	½ „
„ 8	Self-drove 10.15 a.m. to Dingle and back.	—
„ 9	P. Coleman, fitter, fired 10.15 a.m. to Dingle and back.	—
„ 11	Repairing No. 5 engine.	—
„ 12	Repairing No. 2 and 5 engines.	—
„ 13	Taking out leading and pony truck wheels, and repairing tools.	½ day.
„ 14	Repairing Nos. 5 and 3 engines.	—
„ 15	Taking off exhaust pipes, and taking out pistons.	1 day.
„ 16	Repairing No. 5 engine.	—
„ 18	Repairing ash-pan dampers, front and back.	½ day.
„ 19	Taking centres of horn blocks and repairing tools.	1 „
„ 20	Repairing No. 2 engine.	—
„ 21	Repairing No. 2 engine and No. 4 engine.	—
„ 22	Repairing No. 2 engine and No. 4 engine.	—
„ 23	Taking down brake shaft, &c., marking out driving axle boxes.	1 day.
	Total time worked out at No. 1 engine, from 4th to 23rd April -	8 days.
„ 25	Self and P. Coleman worked 10.15 a.m. to Dingle and back.	—
„ 26	Taking off brake levers, fitting brasses on pony journals.	1 day.
„ 27	Putting in pony truck and leading coupled wheels.	1 „

Date.	List of Repairs done to No. 1 Engine up to and including June 4th.	Time.
April 28	Self worked 10.15 a.m. to Dingle and back.	—
May 2	Fitting two new brasses in leading axle boxes. Straightening brake shaft and repairing tools.	1 day.
,, 3	P. Coleman firing 10.15 a.m. Self repairing No. 5 engine.	—
,, 4	Repairing and grinding plug of blow-off cock, and fitting leading axle brasses.	1 day.
,, 5	Repairs to No. 5 engine.	1 ,,
	Making gauges for driving axle boxes, and fitting new leading axle brasses.	¾ ,,
,, 6	Dressing tools, and fitting new leading axle brasses, and taking off trailing sand boxes.	1 ,,
,, 7	Fitting brasses in both leading axle boxes. Fitting new driving axle boxes in horn blocks.	1 ,,
,, 9	Fitting new axle boxes in horn blocks.	1 ,,
,, 10	Taking down both vacuum cylinders for repair. Chipping and filing new driving axle boxes.	1 ,,
,, 11	Chipping and repairing steam gauge and pump No. 5 engine.	¾ at 1 ¼ at 5
	Total time worked at No. 1 engine from 25th April to 11th May - - -	10½ days.
May 12	Fitting right-hand driving axle box, and facing horn blocks and taking centres of engine.	1 day.
,, 13	Freeing adjusting screws, fitting key in new brake lever and re-erecting same. Fitting left-hand driving axle box.	1 ,,
,, 14	Freeing adjusting screws, and fitting up new brake blocks.	1 ,,
,, 16	Taking down back of cab to get out regulator spindle; repairing and re-erecting vacuum cylinders.	1 ,,
May 17	Putting in leading axle boxes and vacuum wheels, and fitting liners on leading axle boxes. Tightening bolts in sand-pipe stays, No. 5.	¼ at 5. ¾ at 1.
,, 18	Taking centres of driving and trailing axle boxes, lifting engine and putting driving wheels under engine and fitting new bolt in trailing spring bracket and dressing tools.	1 day.
,, 19	Fitting in cross-head of right-hand slide bars, and trailing axle boxes, drilling broken spring pin out of spring link bracket. Clack box joint of injector made.	1 ,,
,, 20	Fitting new brasses on driving journals, fitting new liner on cross-head, fitting studs, bar bracket and tapping nuts.	1 ,,
,, 21	Putting driving wheels and lowering engine.	1 ,,
	Total time worked at No. 1 engine from 12th to 21st May.	8¾ days.
May 23	Fitting up cross-head and slide bars and putting in piston and glands right-hand side. P. Coleman, fitter, firing a special train from Dingle this day.	1 day.
,, 24	Putting in trailing wheels and lowering engine.	1 ,,
,, 25	Re-setting bearing springs, and fitting piston rings.	1 ,,
,, 26	Re-setting bearing springs, and fitting handle on new end of regulator spindle. Repairs to No. 2 engine.	½ ,,
,, 27	Screwing bolts and making dome and mud-hole door joints, and preparing for boiler inspector.	1 ,,
,, 28	P. Coleman, fitter, fired 5.0 a.m. Special to Dingle and back this day. Self making cramp bolts for safety-valves and making regulator stuffing box joint.	1 ,,
,, 30	Erecting bearing springs and new feed pump.	1 ,,
	Total time worked at No. 1 engine from 23rd to 31st May -	5½ days.

In addition to the repairs described in the annexed list, the following renewals have also been effected, viz.:—Two new driving axle boxes and brasses, two new leading axle brasses, two new slide bar cross-head liners, one new feed-pump and ram, six new spring pins, three new bearing springs, 12 new adjusting screws for springs, one new brake lever, and new end on regulator spindle. This engine has now been 32 days undergoing repairs; eight of this time both my assistant and I have been working trains, showing the actual time spent in repairing No. 1 engine, 28 days. There are 20 or more old tubes to be taken out of the boiler, and a corresponding number put in; blast pipes to be taken out and replaced. Cab to be repaired, and tank to be cleaned out altogether. I should say about three weeks' work will be required to complete this engine.

T. A. Graves,
Locomotive and Carriage Foreman.
June 6th, 1892.

To R. A. Parkes, Esq.,
General Manager.

1940. (*Major Marindin.*) You said, I think, that you cautioned the drivers passing that curve not to go round it at a greater speed than five miles an hour?—Not to descend the grade from the commencement.

1941. Would you consider it was safe to run round that curve at five miles an hour?—Oh, yes; quite safe.

1942. Have you ever driven No. 1 yourself?—Yes, every one of them.

1943. What class of engine was she?—She was as good as any of the three of that class.

1944. You said you were braking the train down with the hand brake only?—Yes.

1945. Were you able to brake the train down with the hand brake only to control the engine?—Yes.

1946. What weight of train?—I have had as many as eight waggons and a third class brake behind.

1947. And you have brought a train down that incline with only the use of the hand brake?—And pinned down waggons.

1948. It was given in evidence by somebody here that the train started from a rest at the top of the hill?—Yes.

1949. But she started smarter than usual, and the

vacuum brake was fully applied after she had run 20 or 30 yards?—She would get into speed very fast.

1950. What speed would she get in 20 or 30 yards?—She would get into double the speed of starting.

1951. She started at nothing?—I thought you said five miles an hour.

1952. She started from rest, and before she had run 20 or 30 yards the vacuum brake was applied full power?—She could not have acquired very great speed in that time.

1953. What would you expect from an engine after running 20 or 30 yards and the vacuum brake was put on full power?—I should expect she would stop.

1954. We heard the train broke down coming up the incline, because she had not sufficient steam, or it was implied she had not sufficient steam; supposing a train had not sufficient steam to pull her load up the incline, would that make the brake inoperative going down the other side?—It would; she would not have any vacuum.

1955. If he had not sufficient steam to pull the train up, might there not be enough left at the top to blow up his vacuum?—He would want at least 100 lbs. of steam to the square inch to form a vacuum equal to 7 lbs. the square inch.

1956. He would want 100 lbs. of steam still at the top?—Yes. That would be modified by the state the ejector would be in, whether it was in good order or not, and the state of the pipes.

(*Mr. Morphy.*) You of course, sir, will make a report on this accident, and form the best opinion you can as to its cause, but, whatever report is made, there will always be some doubt as to the cause of the accident.

(*Major Marindin.*) There will no doubt at all as to the cause of the accident, there may be a difference as to the *causa causans.*

(*Mr. Morphy.*) What I would suggest to you is to hear from Mr. Peet what it was Graves told him was the cause of the runaway train on the Great Southern line, because it may be the cause now. I will show he stated it in all seriousness.

(*Mr. Harrington.*) You know sufficient of engines to know whether there could be any serious meaning in attributing it to a throttle valve?

(*Mr. Morphy.*) That may be a nickname for a part of the engine.

(*Witness.*) Mr. Parkes swore he gave me a rule book, one of those little pamphlets. I say he never did. I have sworn it, but at the same time to show that he might have made a mistake in my case as he did in the case of another, I can produce a man who has acted in the capacity of a guard on the line who has never had a rule book of any kind.

(*Mr. Morphy.*) I propose to ask Mr. Peet as to whether Graves, who has posed here as an experienced engine-driver, has recounted to him an incident on the Great Southern line of a runaway engine going off and could not be controlled.

HASTINGS PEET sworn.

1957. (*Mr. Morphy.*) You know what I have been discussing with the court?—I will explain the matter. Mr. Graves and I were looking at the plan of an engine one day, and he was showing me the arrangement of the lever in the dome, and he said that the engine on the Great Southern line got stuck from the pressure of steam on the regulator valve and ran away from somewhere about the junction to Cork; they could not get it back from the pressure; he could not shut off steam from the pressure.

1958. (*Major Marindin.*) He told you that an engine ran away because a driver could not cut steam off; it is perfectly natural?—He could not move his regulator.

(*Major Marindin.*) It is not suggested that this man was running down the hill with steam on.

(*Mr. Harrington.*) The only thing that Graves disavows is the throttle valve

1959. (*Mr. Morphy.*) It was not a joke?—No; I do not think so.

(*Major Marindin.*) There are one or two returns I want the company to give me, the drawing of the engine, the diagram of the train made up, and the weights.

(Mr. Huggard asked that the report of the inquiry shall not be made public until after the trial of pending actions against the company.

(*Major Marindin.*) My duty ends when my report is made, and any suggestions as to withholding the report should be made to the Board of Trade.)

The inquiry was adjourned to next morning.

Saturday, June 10th, 1893.

The Inquiry was resumed at half-past 9 o'clock.

WILLIAM DARCY sworn.

1960. (*Major Marindin.*) You are a schoolmaster, are you not?—Yes, sir.

1961. Living at Dingle?—I live at Dingle.

1962. And on the day of the accident you were in company with —— ?—I made a little sketch of it (*produced*). I was standing in that position on the road about 20 minutes to 5 on the day in question, Whit-Monday.

1963. Perhaps you will make your statement then?—I was standing on the road about 20 minutes to 5 o'clock when I heard a train coming rapidly west of Barry's house in Camp. I was struck with the rapidity with which she was coming, and I said to McDonald that I would never get to the station before she reached it. He said: "You will be in plenty of time."

1964. You were going towards Camp Junction?—Yes, to get into the train at the junction. Then I heard a whistling from the engine, I heard three or four terrible puffs from the funnel of the engine, not rapidly, but very slow and deliberate. Then she came on and got into the wood, the great noise ceased to my ear partly there. Then I heard the emission of steam from the engine with great noise and force. Then she reached the bridge, and she went over with a terrible crash. I saw the long carriage that is there on the embankment at present go over it. I saw the van that was at the top of the wall twirled round and stand transversely across the line. Then I came on with all the power I had to the junction. I got at the junction to the man with the telephone, and we telephoned instantly to Tralee, and in a moment had a reply back. A man rushed up to the room and I put a red flag in his hand and told him not to draw breath until he got beyond Barry's house to stop Quinn, who was coming on. But I am glad to say that O'Leary had done that also. But if poor O'Leary had been killed or forgetful of his duty, the man I sent would have reached also, because I saw him shortly afterwards with his flag in hand rescuing people. I went out on the platform and saw the Castlegregory train

coming up, and I held up my hand; the engine driver stopped on the spot; Mr. Hamilton, the sub-inspector, and Mr. Goodwin and Mr. Eagar, another Tralee gentleman, were in the train. We held a hasty consultation, and decided to take back the engine and two carriages to the wreck and bring the wounded with all haste to Tralee. These gentlemen worked like giants that day; they had great strength and worked well and were of great use. So that I should say probably in between 25 and 30 minutes the wounded were on their way to Tralee.

1965. You seem to have given great assistance, Mr. Darcy, and I am sure everybody is very much obliged to you. Where did you first see the train?—I first saw the train going over.

1966. You never saw it before; it was hidden from you by the trees and village?—Yes.

1967. Now, you said you heard a great noise?—Great rattling.

1968. Then puffs?—Deliberate puffs from the engine.

1969. That is before the engine had got to Barry's?—Exactly.

1970. And after it had passed Barry's and the wood, you heard some more steam blowing off?—Then I heard the great steam seething out of the valves.

1971. What were the first puffs you heard?—That would be out of the engine.

1972. Where do you think the other steam came from?—Evidently from the pipes, because they are low down.

1973. You could not see it?—I saw it rising, going up through the trees, and there was none of this steam up out of the chimney.

1974. (*Mr. Harrington.*) You were on the line after. I suppose you looked at the line and the rails?—Yes.

1975. Did you and the other gentlemen who came on so soon make any endeavour to find out the point at which the train went off?—Oh, no, sir. My mind was taken up with the wounded and dying, and I did not pay any attention to the line.

1976. You could not give any evidence as to whether it touched the check rail or not?—No, sir.

1977. From what you caught of the train descending could you form an idea whether the train lifted and overturned off the line or jumped off?—The train went down in a straight line, the engine did not come to the bridge at all, she went off in a straight line, like a shot, like a thunder-bolt across the river.

1978. You did not see that?—I did not see the engine exactly, but I saw the place afterwards where it went off in a straight line.

JAMES MURPHY sworn.

1979. (*Major Marindin.*) What are you?—Carriage examiner.

1980. How long have you been in the service of the company?—Since the line opened.

1981. Where were you before?—With the contractor.

1982. In what capacity?—At the reconstruction of the rolling stock, that is to say, putting on the vacuum brakes.

1983. You were employed on the rolling stock, not on the line?—Not on the line, sir.

1984. Where did you receive your training with regard to carriage examiner?—I had something about eight years' experience with various contractors.

1985. Not on a railway company?—Not on a railway company, but the stock is nearly similar.

1986. What are your duties with regard to the carriage stock?—To examine them and adjust the brakes, in fact to be guided by Mr. Redshaw what to do.

1987. You were under Mr. Redshaw?—Yes.

1988. And your duty was to examine the brakes and brake gearing on the carriage stock?—Quite so; everything that was done was by his supervision and orders, nothing was done without acquainting him.

1989. When did you last yourself examine the carriage and waggons that were in that train to which the accident happened?—The weightier part would be about a day or two.

1990. Then the other ones, when do you think you examined them?—As a matter of fact, every train that comes into Tralee is examined the moment they come in and before they go out in case they would meet with any accident in the yard.

1991. When you last examined these vehicles in what state were they?—They could not be better because the brakes were fresh adjusted.

1992. Can you tell me what distance you put your brake blocks from the wheel?—I generally put each block, when I do adjust them, I put each block something that you could get 1*s.* or 6*d.* between the blocks.

1993. Less than one-eighth of an inch?—Yes, so that they will just come loose to the wheel.

1994. How far do you let your brake blocks get worn before you readjust them?—Do you mean renewing the blocks?

1995. No, putting them closer, re-adjusting them?—I would not like to leave the whole set get half an inch all round. I would not like to let them get further.

1996. Have you since the accident measured the blocks upon any of the carriages or stock belonging to this train?—There would not be any possible way. I was sure about the distance of them.

1997. Have you?—I could not do it, because they are broken up.

1998. Oh, dear, no, take the carriage that is on the bank, have you looked at the brake blocks on that?—I could not well; they are broken up; they are strained you could not form any idea.

1999. As to the guard's van?—That was perfect as far as the adjustment.

2000. What was the distance of the blocks?—You might get a penny in between the blocks, but the hand brake got locked in the road; you could not shift it; the hand brake had to be cut away and also the blocks the same.

2001. In your opinion the brakes on that train so far as the carriage stock was concerned were in good order?—He could not have a better brake than he had; it was impossible to give it to him; they were all fresh adjusted.

2002. And all the other parts of the stock in good order?—Yes.

2003. Are the blocks timber?—I think they are cast metal.

2004. (*Mr. Harrington.*) Do you know anything about engine driving yourself?—Oh, no.

2005. You have heard a good deal of the evidence given here; you have heard the thing discussed as to how that train was unmanageable coming down the hill; could you form any opinion as to the reason of that run down if the brakes were all right and the carriages all right?—I could not; if I was there I would not like to offer an opinion.

2006. (*Mr. Horgan.*) Would not wood blocks be safer coming down that hill than metal blocks?—I do not think so.

R. A. PARKES recalled.

2007. (*Major Marindin.*) On March 2nd, 1891, the company gave an undertaking as to the working, did they not?—I understand so.

2008. And the undertaking was to this effect: "That the said main line at Camp and Castlegregory "shall be so worked that only one engine in steam or

" two or more coupled together shall be at one and " the same time on the section of line, one between " Tralee and Camp Junction, one between Camp " Junction and Aunascaul and one between Aunascaul " and Dingle." That is so, is it not ?—Yes.

2009. "Such engine to carry a distinct staff for each of the said sections." That is so ?—Yes.

2010. And under that undertaking no train is allowed to follow another into one of the sections with a ticket. There is no mention of a ticket in that ?—There is no mention of a ticket.

2011. Can you tell me what happened subsequently about the use of a ticket ?—We had a correspondence with the Board of Trade. A question had arisen owing to a special that was sent to Castlegregory, at the late inquiry before Major-General Hutchinson, and he raised the point as to how we were able to get the special to Castlegregory, another train following, and that led to a correspondence, and we explained to him that we gave a ticket to the previous train and cleared the second by telephone, and let the next train follow with the staff. I understand the secretary then got an arrangement with the Board of Trade by which we could use a ticket.

(*Mr. Harrington.*) I think it would be very satisfactory if we could have that; there is no telephone on this section.

2012. (*Major Marindin.*) What happened; did you get the authority to use a ticket with the train staff ?—We did not up to the present actually get that authority, except that late letter from the Board of Trade. (Reads letter of 13th August 1891. *See* page 139 of this report.)

2013. You see you must be informed by telegraph that the previous train has cleared the section which is about to be entered ?—Quite so.

2014. On that apparently you took to issuing tickets ?—Yes.

2015. Had you a telegraph ?—We were in the habit of blocking the section.

2016. Never mind, had you a telegraph by which you could be informed from one station to another that the previous train had cleared the section; is there such a thing as a telegraph on the line ?—Only from Tralee to Camp.

2017. Is there such a thing on your line ?—A telephone.

(*Major Marindin* reads letter from the Secretary of the line to the Board of Trade, dated 1st May 1893, and the reply of the Board, dated 6th May 1893.)

2018. (*Major Marindin.*) So that until you established block working or telegraphic working you were not entitled to issue tickets, and that undertaking was not accepted ?—Yes.

2019. In answer to that you wrote to say that you have decided not to run special trains except with the staff until something definite is arranged, that is dated 24th May, subsequent to the accident. So that as a matter of fact the train that Quinn was driving, I take it, was the last train run upon your line with a ticket ?—The train Quinn was driving had the staff.

2020. The train the accident happened to was the last that was run with a ticket. How did Quinn's train get into the section at all, even supposing you were working this line with a train staff and ticket and block; would it not have been a breach of the block regulations for this second train to have come into that section until the first train had got to Castlegregory Junction ?—That is so.

2021. How is that so ?—Quinn was allowed in on the section with instructions to keep a sharp look out for the special before him.

2022. Who by ?—The station-masters at Aunascaul and Dingle.

2023. Is that the habit of working ?—We have been in the habit of working that cattle train on that system, the old time interval and in order to block that system we were erecting the telephone to Aunascaul.

2024. Therefore, practically, you were working this line contrary to this undertaking on the old time system. I will say no more about it, but that it is so ?—That is so.

2025. (*Mr. Harrington.*) I am afraid the sudden start from the top of the hill was an endeavour to get away from the coming train which was not blocked ?—If you notice that special was supposed to start at 1.5, the ordinary train was not to leave until 3.30.

(*Mr. Harrington.*) We have the fact that the disaster had only occurred and the man had only got 300 yards on the line when he stopped the incoming train.

(*Major Marindin.*) It is quite possible Redshaw, knowing he was being followed by another train, would make the best of his way down the hill.

(*Witness.*) There is another thing that has not appeared in the evidence when I heard of the accident to the special, I telephoned to the station-master at Camp Station to send back immediately a red flag to stop the incoming train, he did so, and that would have been sufficient to stop the train had not O'Leary been on the spot at all.

(*Major Marindin.*) I want a nominal return of the killed and wounded up to date; how many passengers in all were there in the train ?

(*Witness.*) Thirty-seven.

2026. (*Mr. Horgan.*) How many in the second train ?—I cannot say.

2027. (*Mr. Huggard.*) We admit there was a breach of the undertaking in not sending a telegram to clear the line. You could have sent a telegram through the public telegraph office ?—Not in time to have the train started in time.

2028. And you were erecting a telephone wire ?—We expected to have it up in a fortnight.

2029. Yesterday there was a question that wanted some clearing up as to communicating the rules to the different drivers and officials. Graves swore he never got them and said he could produce a man who never got them; are you able to inform the court did Graves get one of those rule books or did he not ?—I gave it to him myself, and a short time after I gave him a bundle of them for the engine-drivers, and I have an engine-driver here to prove he saw them in Graves' possession.

2030. In addition to the fact of his getting them, when compiling them did you consult with Graves as to any point in connexion with the speed ?—I did.

2031. Were you conversing together as to the speed down that incline ?—He said he would not like to come at as much as 10 miles an hour. I said, "We will err on the side of safety and say six," and this has been the rule ever since.

2032. (*Mr. Harrington.*) Then you did give instructions to come six miles an hour down that incline ?—Certainly.

2033. Are you convinced now that that was in itself a breach of the rule as to speed, as to Skirlough gates ?—As to Skirlough gates there appears to have been some misunderstanding regarding the speed. However, the difference is only one mile an hour.

2034. The men to whom you gave these books recently, you got receipts from them ?—I got receipts on memorandum forms. A great many of these forms, I understand, were distributed by Graves.

H. QUINN recalled.

2035. (*Mr. Huggard.*) Have you any knowledge of this matter, as to whether Graves got these instruction books or not ?—I got the books myself from him.

2036. (*Mr. Adams.*) The black instruction book —Yes, sir, and they are coming in this morning by the Dingle train from my own house.

2037. (*Mr. Parkes.*) Is his handwriting in those books ?—It is in some of them.

2038. (*Major Marindin.*) How is it you have so many copies of this book?—I got two or three of them.

2039. What did you want with more than one of them?—Some of them got dirty.

2040. They were all alike?—Yes.

2041. (*Mr. Harrington.*) Did you say yesterday you never read that book?—No, sir; but I said I did not take notice of anything about Camp Bridge.

(*Major Marindin.*) Now, gentlemen, I am very much obliged to you all for your assistance. That closes the public proceedings.

(*Mr. Harrington, M.P.*) On behalf of the professional gentlemen here, I am sure I am expressing the opinion of all, when I say that we are extremely indebted to you for the courtesy with which we have been treated, and we have every confidence in the result of this inquiry.

The inquiry then terminated.

I certify that the foregoing is an accurate and full (save for some condensing and exclusion of irrelevant matter) transcript of the proceedings at this inquiry reported by me in shorthand.

CHARLES RYAN,
3, Carlisle Terrace,
Terenure Road, Dublin.

June 16th, 1893.

SESSION 1893.

REPORT

BY THE

BOARD OF TRADE

OF THEIR

PROCEEDINGS UNDER THE TRAMWAYS ACT, 1870, AND THE GAS AND WATER WORKS FACILITIES ACT, 1870,

DURING THE

SESSION OF 1893.

Presented to both Houses of Parliament by Command of Her Majesty.

LONDON:
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BY EYRE AND SPOTTISWOODE,
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1893.

[C.—7146.] *Price* 1*d.*

SESSION 1893.

Report by the Board of Trade of their Proceedings under the Tramways Act, 1870, and the Gas and Water Works Facilities Act, 1870, during the Session of 1893.

TRAMWAYS.

Number and list of applications.

The number of applications to the Board of Trade for Provisional Orders under the Tramways Act, 1870, made in December 1892, was seven, viz.:—

Birmingham Central (Cable).
Blackpool Corporation.
Great Yarmouth.
Hull.
Manchester Corporation.
Plymouth Corporation.
South Staffordshire.

Objects of applications.

All these applications proposed the construction of new tramways, being in every case, except Great Yarmouth, in extension of, or in substitution for, lines already in use.

Mileage and estimated cost.

The aggregate length of new tramway was 14 miles 9 chains of double line, and 8 miles 69 chains of single line, the total estimated cost of construction being 173,121*l.*

Inspection of routes.

The routes of the proposed lines were inspected by Major-General Hutchinson, R.E., C.B., one of the Inspecting Officers of the Department, and various engineering recommendations made by him were embodied in the Orders granted.

Applications dropped.

The Birmingham Central, Hull, and South Staffordshire applications were ultimately dropped by the promoters.

Provisional Orders granted.

Four Provisional Orders were granted by the Board of Trade, viz., Blackpool Corporation, Great Yarmouth, Manchester Corporation, and Plymouth Corporation.

Special clauses.

The Blackpool and Plymouth Orders empowered the Board of Trade to grant a licence enabling the local authorities to work the tramways on being satisfied that the lines could not be leased at an adequate rent.

Great Yarmouth Order dropped.

In the case of the Great Yarmouth Order, the deposit money not having been paid into Court, the Board of Trade were unable to submit the Order to Parliament for confirmation.

Confirming Bill.

A Bill to confirm the other three Provisional Orders was introduced in the House of Commons on May 5th.

Petitions were presented against the Blackpool and Plymouth Orders, but were subsequently withdrawn, and the Bill passed through the first House unopposed.

In the House of Lords petitions were again presented against the Blackpool Order by the promoters of the Blackpool, St. Anne's, and Lytham Tramways Bill, and against the Plymouth Order by the National Telephone Company, Limited. New clauses and other amendments were agreed upon between the parties, and the Bill received the Royal Assent on August 24th.

Joint Committee on Electric Powers.

During the Session a Joint Committee of both Houses was appointed to consider and report whether the grant of statutory powers to use electricity ought to be qualified by any prohibition or restriction as to earth return circuits, or by any provisions as to leakage, induction, or similar matters; and, if so, to settle the necessary clauses. The Joint Committee recommended a form of protective clause, which, with

slight modifications, was incorporated in the Blackpool and Plymouth Orders in lieu of clauses previously inserted.

Suspended Confirming Bill of last session.

The Tramway Orders Confirmation Bill, No. 2, suspended from last session, was proceeded with under the resolutions adopted in the previous Parliament. The Somerton, &c. Order was again petitioned against in the House of Commons by Mr. J. H. Thring. The case was heard by a Select Committee, who reported in favour of the confirmation of the Order, subject to a provision which they inserted as to the width of the road on which the tramway is to be laid. The Bill received the Royal Assent on the 28th March 1893.

GAS AND WATER PROVISIONAL ORDERS.

Number of applications.

In December 1892, 15 applications for Provisional Orders under the Gas and Water Works Facilities Act, 1870, were made to the Board of Trade, eight relating to gas, and seven to water undertakings.

Gas.

The following is a list of the applications relating to gas:—

Bromyard.
Llanfairfechan and Aber.
Newent.
Otley.
Portishead.
Sheffield.
Sligo.
Swindon.

Objects of applications.

Five of the applications were in respect of undertakings already existing without Parliamentary authority, and sought for such authority to maintain and continue the existing works, and to continue the manufacture and supply of gas, viz.:—Bromyard, Llanfairfechan and Aber, Newent, Portishead, and Swindon. The Bromyard Company desired power, in addition, to construct additional gasworks. One of these applications, the Llanfairfechan and Aber, was promoted by an individual.

The Otley, Sheffield, and Sligo applications related to undertakings already authorised by Parliament. The Otley application sought for power to purchase additional lands, to supply gas in bulk beyond the limits of supply, and to extend the borrowing powers of the Company; the Sheffield application for power to construct additional works, and to create and issue debenture stock, and the Sligo application for power to raise additional capital, and to extend the authorised limits of supply.

The aggregate amount of capital which it was desired to raise was 74,657*l.* share, and 221,614*l.* loan capital, including debenture stock.

Orders granted.

Objections were lodged against all the applications, except the Otley Order, and were duly considered. It was not found necessary to hold a local inquiry in any case, and subject to certain modifications and amendments, the Board of Trade granted all the applications.

Sliding scale.

The sliding scale of price and dividend was adopted in three orders, the initial price per 1,000 cubic feet being fixed in the respective Orders as follows:—

	s.	*d.*	
Portishead	4	6	subject to maximum mentioned below.
Sligo	5	0	
Swindon	4	3	

Maximum price.

In four Orders, a maximum price per 1,000 cubic feet was fixed as follows:—

	s.	*d.*
Bromyard	5	10
Llanfairfechan and Aber	5	10
Newent	5	10
Portishead	5	3

In the Llanfairfechan and Aber and Newent Orders, power was reserved to the Board of Trade after three years to vary the maximum price, or to substitute a sliding scale.

Clauses.

The supply of gas in bulk beyond the limits of supply, subject to the usual limitations, was authorised in the Llanfairfechan and Aber, Otley, Sligo, and Swindon Orders.

The limits of supply in the Portishead Order include portions of the authorised limits of supply of the Bristol United Gas Light Company in which that Company have not exercised their powers. No objections were lodged against this provision by the Local Authorities concerned or by the Bristol United Gas Light Company.

In the Llanfairfechan and Aber Order, the promoter being an individual, a provision was inserted that no sale or assignment of the undertaking should have effect until approved by the Board of Trade.

The Orders contain the usual clauses as to the sale of additional capital by auction or tender, limits of dividend, the creation of insurance and reserve funds, illuminating power, the testing of the gas, the quantity of land to be taken by agreement, &c. Where necessary the Gas Works Clauses Acts, 1847 and 1871, were incorporated.

Two Bills to confirm the Orders were submitted to Parliament, both Bills being introduced into the House of Lords on May 4th. The Confirmation Bills passed through the various stages without opposition and received the Royal Assent on the 27th July.

Water.

Number and list of applications.

The applications for Water Provisional Orders were as follows:—

Hoylake and West Kirby.
Llandrindod Wells.
Maidenhead.
Newington.
Pocklington.
Poole.
South West Suburban.

A Provisional Order was granted in every case.

Objects of applications.

The Hoylake, Llandrindod and South West Suburban applications were for authority to raise additional capital only, the Newington and Pocklington applications for power to construct new works and to raise additional capital; the Maidenhead application to extend the limits of supply, and raise additional capital; and the Poole application to extend the limits of supply, to construct new works, and to raise additional capital.

Reductions of proposed capital.

In certain cases the Board of Trade were not satisfied that the whole amount of additional capital applied for would be required within a reasonable time, and reductions were accordingly made.

Llandrindod.

The Llandrindod application was opposed by the Local Authority, who objected to the quality of the water and the sources of supply. The Board of Trade being satisfied, however, that the capital powers of the Water Company were exhausted and that further capital was necessary to enable them to fulfil their obligations, granted the Order, but reduced the amount of additional capital to 1,000*l.* by shares and 250*l.* by loan, and reduced also by one per cent. the proposed maximum dividends.

Newington.

The Newington order was a revival of an application made in the previous session, and was granted with an intimation to the promoters that the fact of its being granted was not to be held to prejudge the case of the Corporation of Hull, in respect of alleged interference with their sources of supply. This intimation was given because circumstances had prevented the Corporation from stating their case at the Board of Trade inquiry on the application of the previous year.

Confirming Bills.

Two Bills to confirm the Water Provisional Orders were introduced in the House of Commons on May 5th.

No. 1 Bill passed through both Houses without opposition, and received the Royal Assent on June 29th.

The rejection of No. 2 Bill was moved in consequence of objection to the Llandrindod Order, but the second reading was carried after a division.

Petitions were presented against the Llandrindod Order by the Local Board (not praying to be heard) and against the Newington Order by the Corporation of Hull.

On the motion of Mr. Frank Edwards, member for Radnorshire, the House of Commons adopted an instruction directing the Committee to divide the Bill into two portions, one to contain the Llandrindod Order alone, and to report them separately to the House, and another instruction empowering the Committee to insert a clause enabling the Local Board to purchase the undertaking of the promoters at a price to be settled, in case of dispute between the parties, by arbitration.

The Bill was divided in accordance with the instruction and reported as two Bills, Nos. 2 and 3.

The Select Committee reported in favour of the confirmation of both the opposed Orders, with amendments, an agreed purchase clause being inserted in the case of Llandrindod.

The Newington Order was again petitioned against by the Corporation of Hull in the House of Lords. Ultimately the promoters and the Corporation agreed upon a purchase scheme, and the Order was amended to give effect to it.

Nos. 2 and 3 Bills received the Royal Assent on July 27th.

Board of Trade,
September 1893.

FRANCIS J. S. HOPWOOD.

TABLE.

The following table shows the number of Orders made by the Board of Trade under the Tramways Act, 1870, and the Gas and Water Works Facilities Act, 1870, from the passing of those Acts down to the present time :—

Year.	Tramway Orders.			Gas and Water Orders.			Fees received with applications.
	Applied for.	Made by Board of Trade.	Confirmed by Parliament.	Applied for.	Made by Board of Trade.	Confirmed by Parliament.	
							£
1871	26	12	*a* 4	23	19	19	1,715
1872	18	16	*b* 10	18	17	17	1,260
1873	15	9	*c* 17	14	14	14	1,015
1874	10	6	6	16	14	14	910
1875	2	2	2	12	10	10	490
1876	7	6	6	23	22	22	1,050
1877	12	8	8	16	14	13	980
1878	25	17	15	22	20	20	1,645
1879	32	21	21	24	24	24	1,960
1880	35	28	27	15	15	15	1,750
1881	39	27	27	19	17	17	2,030
1882	27	*d* 23	21	12	11	11	1,365
1883	30	*d* 24	22	16	16	16	1,610
1884	24	18	18	17	17	17	1,435
1885	16	13	13	17	*e* 15	14	1,155
1886	20	14	*f* 13	21	21	*f* 20	1,435
1887	17	12	12	14	13	13	1,015
1888	14	13	13	24	22	22	1,330
1889	7	6	6	14	14	14	735
1890	13	11	11	22	22	*g* 21	1,225
1891	7	6	*h* 5	14	13	13	735
1892	10	8	*j* 4	15	*i* 13	11	875
1893	7	4	*k* 6	15	15	15	770
Total	413	304	287	403	378	372	28,490

a. Eight others were suspended.
b. Four others were suspended and two withdrawn.
c. Including eight suspended in 1871 and 1872.
d. One was afterwards struck out of the Bill by direction of the Board of Trade.
e. One was not advertised in time, and was therefore not introduced into the Confirmation Bill.
f. One Tramway Order and one Gas Order were withdrawn, but confirmed on a fresh application in the session 1887.
g. One was dropped by the Promoters, and was therefore not introduced into a Confirmation Bill.
h. One Order was struck out of the Confirmation Bill at the request of the Promoters.
i. In two instances the Promoters failed to publish the Orders before the prescribed date.
j. One Order was dropped by the Promoters, and three others were in a Bill which was carried over to a future session by special resolution.
k. The three Orders referred to in note *j* were confirmed this year. One of the Orders granted this Session was not submitted to Parliament for confirmation.

MEMORANDUM stating the Nature of the PROPOSALS contained in the PROVISIONAL ORDERS included in the TRAMWAYS ORDERS CONFIRMATION BILL.

1. *Blackpool Corporation.*

Authorising the Corporation of Blackpool to construct additional Tramways in the Borough, and increasing their borrowing powers.

2. *Manchester Corporation.*

Authorising the Corporation of Manchester to construct additional Tramways in the City, and increasing their borrowing powers.

3. *Plymouth Corporation.*

Authorising the Corporation of Plymouth to construct additional Tramways in the Borough, and increasing their borrowing powers.

Board of Trade, Whitehall,
May 1893.

Courtenay Boyle,
Acting Secretary.

TRAMWAYS PROVISIONAL ORDERS BILL.

MEMORANDUM stating the Nature of the PROPOSALS contained in the PROVISIONAL ORDERS included in the TRAMWAYS ORDERS CONFIRMATION BILL.

(*Presented by Her Majesty's Command.*)

Ordered, by The House of Commons, *to be Printed,*
12 *May* 1893.

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[*Price ½ d.*]

217.

TRAMWAYS (STREET AND ROAD).

RETURN to an Order of the Honourable The House of Commons, dated 20 June 1893;—*for*,

RETURN "of STREET and ROAD TRAMWAYS Authorised by Parliament, showing the Amount of CAPITAL Authorised, Paid up, and Expended, the Length of TRAMWAY Authorised, and the Length Open for the Public Conveyance of PASSENGERS, down to the 30th day of June 1893; the GROSS RECEIPTS, WORKING EXPENDITURE, and NET RECEIPTS; the Number of PASSENGERS Conveyed, and the Number of MILES Run by Cars, during the Year ending the 30th day of June 1893; together with the Number of HORSES, ENGINES, and Cars at that Date (in continuation of Parliamentary Paper, No. 7, of Session 2, 1892)."

(*Mr. Burt.*)

Ordered, by The House of Commons *to be Printed*,
1 *September* 1893.

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400.

COMPARATIVE TABLE.

STATEMENT showing the Amount of CAPITAL Authorised, Paid up, and Expended for TRAMWAYS in each LINE Open, the Number of PASSENGERS Carried, the GROSS and NET RECEIPTS,

	ENGLAND AND WALES. (For Years ended 30th June.)							SCOTLAND. (For Years ended 30th June.)						
	1878.	1882.	1886.	1890.	1891.	1892.	1893.	1878.	1882.	1886.	1890.	1891.	1892.	1893.
Capital Authorised:	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.
By Shares - - -	3,310,512	6,652,480	10,396,467	10,148,229	10,074,156	9,235,920	8,899,196	655,000	825,027	972,486	900,725	892,975	853,903	922,853
By Loans and Debentures.	1,347,121	3,160,784	4,031,442	4,250,463	4,425,814	4,575,665	4,564,681	534,462	646,762	705,927	786,498	788,198	795,753	813,903
TOTAL - - - £.	4,657,633	9,813,264	14,427,909	14,398,692	14,499,970	13,811,585	13,463,877	1,189,462	1,471,789	1,678,413	1,687,223	1,681,173	1,648,656	1,736,756
Capital Paid up:														
Share - - - -	2,403,346	4,566,971	7,536,079	7,758,791	7,731,427	7,609,513	7,595,258	310,790	572,054	642,619	743,284	746,280	719,615	714,565
Loan and Debenture -	587,102	1,933,988	2,682,297	3,235,550	3,362,691	3,479,426	3,557,922	302,716	439,232	477,126	531,985	529,911	529,114	574,696
TOTAL - - - £.	2,990,448	6,520,959	10,218,376	10,994,341	11,094,118	11,088,939	11,153,180	613,506	1,011,286	1,119,745	1,275,269	1,276,191	1,248,729	1,289,261
Total Capital Expended -	3,121,268	6,304,509	10,345,879	11,136,027	11,536,494	11,235,074	11,418,828	657,943	1,038,852	1,157,559	1,366,938	1,378,320	1,359,234	1,399,355
	Miles.	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*
Length of Line open for Public Traffic.	194	444	706	753	768	750	761	43	64	73	84	84	84	86
	No.	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*
Number of Horses belonging to the Companies.	6,269	13,741	19,388	21,881	22,884	23,306	23,653	2,122	3,062	3,499	4,126	4,107	4,284	4,356
Number of Locomotive Engines belonging to the Companies.	6	62	422	534	537	492	522	8	10	17	19	19	20	20
Number of Cars belonging to the Companies.	802	1,794	2,772	3,030	3,296	3,239	3,327	210	343	384	423	423	426	429
Total Number of Passengers carried.	89,442,108	187,875,779	302,790,839	418,399,936	448,251,111	463,137,946	476,928,832	47,680,256	56,137,402	59,528,415	76,008,545	82,426,901	82,145,667	82,095,160
	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.
Gross Receipts - - -	791,677	1,516,845	2,110,918	2,573,535	2,741,723	2,841,325	2,904,026	253,011	314,205	335,900	417,350	452,151	448,150	444,438
Working Expenses - -	579,471	1,225,906	1,639,390	1,932,444	2,116,753	2,300,223	2,298,573	212,960	216,902	243,693	296,493	335,259	354,879	347,482
Net Receipts - - -	166,012	290,939	471,528	641,091	624,970	541,102	605,453	40,051	97,303	92,207	120,857	116,892	93,271	96,956

Note.—The figures relating to capital have, in recent years, been considerably affected by the transfer of old undertakings to new Companies, with reduced capital, and by certain other re-arrangements, in addition to failure to furnish Returns in some cases.

COMPARATIVE TABLE.

Division of the UNITED KINGDOM on the 30th June in certain Years from 1878 to 1893; also the LENGTH of and the WORKING EXPENDITURE in each of the same Years.

	IRELAND. (For Years ended 30th June.)							UNITED KINGDOM. (For Years ended 30th June.)							
	1878.	1882.	1886.	1890.	1891.	1892.	1893.	1878.	1882.	1886.	1890.	1891.	1892.	1893.	
	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	Capital Authorised:
1	591,637	1,047,500	1,221,500	1,377,500	1,377,500	1,386,500	1,378,000	4,557,149	8,525,007	12,590,453	12,426,454	12,344,631	11,475,323	11,200,049	By Shares.
2	147,379	253,490	312,666	339,666	351,166	354,499	350,499	2,028,962	4,061,036	5,050,035	5,376,627	5,565,178	5,725,917	5,729,083	By Loans and Debentures.
3	739,016	1,300,990	1,534,166	1,717,166	1,728,666	1,740,999	1,728,499	6,586,111	12,586,043	17,640,488	17,803,081	17,909,809	17,201,240	16,929,132	- - - TOTAL.
															Capital Paid up:
4	403,010	811,668	925,982	1,080,090	1,073,687	1,080,621	1,091,487	3,117,146	5,950,693	9,104,680	9,582,165	9,551,394	9,409,749	9,401,310	Share.
5	28,500	85,390	125,401	152,326	152,301	152,711	174,421	918,318	2,478,610	3,284,824	3,919,861	4,044,903	4,161,251	4,307,039	Loan and Debenture
6	431,510	897,058	1,051,383	1,232,416	1,225,988	1,233,332	1,265,908	4,035,464	8,429,303	12,389,504	13,502,026	13,596,297	13,571,000	13,708,349	- - - TOTAL.
7	428,139	918,424	1,069,603	1,232,804	1,247,836	1,275,926	1,285,969	4,207,350	8,261,815	12,573,041	13,735,769	14,162,650	13,870,234	14,104,152	Total Capital Expended.
	Miles.	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	*Miles.*	
8	32	56	86	111	111	112	113	269	564	865	948	963	946	960	Length of Line open for Public Traffic.
	No.	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	*No.*	
9	831	1,327	1,648	1,912	2,021	2,109	2,216	9,222	18,130	24,535	27,719	29,012	29,699	30,225	Number of Horses belonging to the Companies.
10	-	4	13	22	23	22	21	14	76	452	575	579	534	563	Number of Locomotive Engines belonging to the Companies.
11	112	215	284	348	348	355	342	1,124	2,352	3,440	3,801	4,067	4,020	4,098	Number of Cars belonging to the Companies.
12	8,878,859	13,746,879	21,838,270	31,960,847	34,943,466	36,394,933	39,265,517	146,001,223	257,760,060	384,157,521	526,369,328	565,621,478	581,678,546	598,289,509	Total Number of Passengers carried.
	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	
13	100,777	139,300	183,520	223,858	235,812	241,956	257,631	1,145,465	1,970,350	2,630,338	3,214,743	3,429,686	3,531,431	3,606,095	Gross Receipts.
14	75,884	112,985	138,473	173,863	178,917	198,254	191,391	868,315	1,555,793	2,021,556	2,402,800	2,630,929	2,853,356	2,837,446	Working Expenses.
15	24,893	26,315	45,047	49,995	56,895	43,702	66,240	230,956	414,557	608,782	811,943	798,757	678,075	768,649	Net Receipts.

	Capital Expenditure on Lines and Works Open for Traffic.	Total Expenditure on Capital Account.	Length Open for Traffic.			Number of Undertakings.
			Double.	Single.	Total.	
	£.	£.	M. CH.	M. CH.	M. CH.	
TRAMWAYS belonging to Local Authorities - - -	* 2,307,003	* 3,105,636	155 79	118 28	274 27	35
TRAMWAYS belonging to *other than* Local Authorities -	† 8,494,149	† 10,998,516	279 58	406 67	686 45	118
TOTAL, UNITED KINGDOM - - -	10,801,152	14,104,152	435 57	525 15	960 72	153

* Under the Tramways Act, 1870, Local Authorities are not authorised to work their own Tramways, and these figures include, therefore, in several cases, the amounts expended by their Lessees on buildings and equipment for working the lines. *(By special statutory powers the Corporations of Blackpool, Huddersfield, and Plymouth are themselves working their Tramways.)*

† These figures include cost of buildings and equipment in respect of certain Local Authorities' lines worked in conjunction with other lines.

Note.—In the following pages where the words "Corporation," "Local Board," or "Board of Police" occur in the name of the Tramways, they imply that the lines belong to the Local Authority, though not worked by them, except in the cases of Blackpool, Huddersfield, and Plymouth mentioned above.

RETURN of STREET and ROAD TRAMWAYS Authorised by Parliament, showing the Amount Length Open for the Public Conveyance of PASSENGERS, down to the 30th June 1893; the PASSENGERS Conveyed, and the Number of MILES Run by Cars, during the Year ended

PART I. - - - - - - - -

RETURN of STREET and ROAD TRAMWAYS Authorised by Parliament, showing the Amount the Length Open for the Public Conveyance

NAME OF TRAMWAY, AND GAUGE. • Mechanical Power Authorised (subject in most cases to Board of Trade approval).	Special Acts, or Acts confirming Provisional Orders, relating to the Tramways.	CAPITAL AUTHORISED. By Shares.	CAPITAL AUTHORISED. By Loans.	CAPITAL AUTHORISED. TOTAL.	CAPITAL PAID UP. By Shares.	CAPITAL PAID UP. By Loans (including Debenture Stock).	CAPITAL PAID UP. TOTAL.	
ENGLAND AND WALES:		£.	£.	£.	£.	£.	£.	
Accrington Corporation (with Haslingden and Rawtenstall Extension.) • 4 ft.	45 & 46 Vict. c. 118 -	Corporation Return: - -	45,000	45,000	- -	37,990	37,990	1
		Company's Return: 60,000	7,500	67,500	52,680	6,000	58,680	2
Barrow-in-Furness • - - - - - 4 ft.	47 & 48 Vict. c. 107 - 51 & 52 Vict. c. 64.	50,000	16,666	66,666	45,180	15,101	60,281	3
Bath - - - - - - - - - 4 ft.	43 & 44 Vict. c. 172 -	No Return received.		—	—	—	—	4
Birkdale and Southport • - - - 4 ft. 8½ ins.	43 & 44 Vict. c. 172 - 45 & 46 Vict. c. 138.	80,000	30,000	110,000	5,810	8,300	14,110	5
Birkenhead Corporation (formerly Birkenhead). 4 ft. 8½ ins.	35 & 36 Vict. c. 127 - 36 & 37 Vict. c. 239. 40 & 41 Vict. c. 187. 42 & 43 Vict. c. 186.	- -	8,000	8,000	- -	7,487	7,487	6
Birmingham and Aston • - - - 3 ft. 6 ins.	43 & 44 Vict. c. 173 - 45 & 46 Vict. c. 101. 47 & 48 Vict. c. 112.	100,000	13,000	113,000	60,000	(Paid off.)	60,000	7
Birmingham and Midland • - - 3 ft. 6 ins.	(Birmingham and Western Districts Orders): 44 & 45 Vict. c 163. 45 & 46 Vict. c. 101. 46 & 47 Vict. c. 47. 51 & 52 Vict. c. 64. 55 & 56 Vict. c. 194.	119,680 (b)	33,500 (b)	153,180 (b)	119,680	33,500	153,180	8
Birmingham Central • - - - - 3 ft. 6 ins.	33 & 34 Vict. c. 78 - - 33 & 34 Vict. c. 104. 35 & 36 Vict. c. 157. 40 & 41 Vict. c. 26. 42 & 43 Vict. c. 76. 43 & 44 Vict. c. 173. 44 & 45 Vict. c. 163. 45 & 46 Vict. c. 101. 46 & 47 Vict. c. 47. 47 & 48 Vict. c. 107. 48 & 49 Vict. c. 103. 50 Vict. c. 22. 50 & 51 Vict. c. 196.	500,000	162,572	662,572	487,728	144,600	632,328	9
Birmingham Corporation • - - - 3 ft. 6 ins.	35 & 36 Vict. c. 157 - 37 & 38 Vict. c. 183. 43 & 44 Vict. c. 173 (Birmingham and Aston Order). 44 & 45 Vict. c. 163 (Birmingham and Western Districts Order). 45 & 46 Vict. c. 101 (Birmingham and Aston and Birmingham and Suburban Orders). 46 & 47 Vict. c. 47 (Birmingham and Western Districts and North Birmingham Orders). 47 & 48 Vict. c. 107 (North Birmingham and South Birmingham Orders). 48 & 49 Vict. c. 103 (Birmingham Central and Birmingham Corporation Orders).	- -	(c) 169,656	169,656	- -	169,656	169,656	10
Blackburn and Over Darwen • - - 4 ft.	42 & 43 Vict. c. 225 -	50,000	12,500	62,500	46,110	3,028	49,138	11
Blackburn Corporation (with Church and Oswaldtwistle Extension.) • (d) 4 ft.	45 & 46 Vict. c. 243 - 50 & 51 Vict. c. 46. 51 & 52 Vict. c. 11. 54 & 55 Vict. c. 148 (Church and Oswaldtwistle Order).	81,000	20,100	101,100	81,000	20,100	101,100	12

(a) Exclusive of leased lines belonging to Birmingham Corporation. (b) Amount paid up only.
(c) Amount raised. (d) The Return is made by the company who constructed and equipped the tramways, and now work them.

of CAPITAL Authorised, Paid up, and Expended, the Length of TRAMWAY Authorised, and the GROSS RECEIPTS, WORKING EXPENDITURE, and NET RECEIPTS; the Number of 30th June 1893; together with the Number of HORSES, ENGINES, and CARS at that Date.

- - - - - - - - PART I.

of CAPITAL Authorised, Paid up, and Expended, the Length of TRAMWAY Authorised, and of PASSENGERS, down to the 30th June 1893.

	CAPITAL EXPENDED.								Length of Tramway Authorised (exclusive of Expired Powers).			Length of Tramway Open for Public Conveyance of Passengers.		
	On Lines and Works Open for Traffic (including Land, Buildings, &c.).	On Lines and Works in course of Construction (including Land, Buildings, &c.).	On Horses.	On Locomotive Engines.	On Cars.	Legal and Parliamentary.	Any other Expenses not included in the foregoing.	TOTAL.	Double Line.	Single Line.	TOTAL.	Double Line.	Single Line.	TOTAL.
	£.	£.	£.	£.	£.	£.	£.	£.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.
1	36,190	- -	- -	- -	- -	1,800	- -	37,990	1 32	4 46	5 78	1 25	4 6	5 31
2	36,159	- -	- -	12,710	3,232	- -	5,482	57,583	0 57	3 28	4 5	0 57	3 28	4 5
3	51,326	- -	- -	5,914	2,026	1,651	4,724	65,641	1 45	5 17	6 62	1 30	4 10	5 40
4	—	—	—	—	—	—	—	—	-	-	-	-	-	-
5	19,958	- -	376	- -	921	- -	282	21,537	0 71	4 45	5 36	0 53	3 13	3 71
6	7,255	- -	- -	- -	- -	38	147	7,440	4 46	2 25	6 71	4 46	2 25	6 71
7	40,647	- -	370	15,554	2,676	6,074	2,768	68,089	1 14	2 52	(a) 3 66	1 14	2 52	(a) 3 66
8	123,137	- -	- -	19,588	5,807	9,105	1,962	159,599	2 4	6 76	(a) 9 0	2 4	6 76	(a) 9 0
9	345,345	- -	28,155	58,993	58,672	140,558	14,684	646,407	5 70	9 29	(a) 15 19	3 9	5 5	(a) 8 14
10	171,512	- -	- -	- -	- -	749	- -	172,261	14 70	7 28	22 18	13 51	5 75	19 46
11	30,898	- -	- -	7,771	2,906	5,532	2,061	49,138	0 40	4 55	5 15	0 40	4 55	5 15
12	72,450	- -	2,100	11,900	5,640	6,648	4,463	103,201	1 0	7 40	8 40	1 0	7 40	8 40

PART I.—RETURN of Street and Road Tramways, showing Amount of Capital Authorised, Paid up,

NAME OF TRAMWAY, AND GAUGE. • Mechanical Power Authorised (subject in most cases to Board of Trade approval).	Special Acts, or Acts confirming Provisional Orders, relating to the Tramways.	CAPITAL AUTHORISED. By Shares.	CAPITAL AUTHORISED. By Loans.	CAPITAL AUTHORISED. TOTAL.	CAPITAL PAID UP. By Shares.	CAPITAL PAID UP. By Loans (including Debenture Stock).	CAPITAL PAID UP. TOTAL.	
ENGLAND AND WALES—*continued.*		£.	£.	£.	£.	£.	£.	
Blackpool Corporation• 4 ft. 8½ ins.	47 & 48 Vict. c. 112	—	35,750	35,750	- -	28,964	28,964	1
Bolton and Suburban (Local Authorities) 4 ft. 8½ ins.	41 & 42 Vict. c. 231 51 & 52 Vict. c. 95. 54 & 55 Vict. c. 13.	Bolton Corporation Return:						
		—	90,000	90,000	- -	73,000	73,000	2
		Astley Bridge Local Board Return:						
		—	9,500	9,500	- -	9,078	9,078	3
		Farnworth Local Board Return:						
		—	13,000	13,000	- -	12,200	12,200	4
		Kearsley Local Board Return:						
		—	15,000	15,000	- -	1,910	1,910	5
Bootle Corporation • 4 ft. 8½ ins.	44 & 45 Vict. c. 105 47 & 48 Vict. c. 112. 55 & 56 Vict. c. 134.	- -	46,500	46,500	- -	37,249	37,249	6
Bradford and District • (formerly Shipley). 4 ft.	44 & 45 Vict. c. 105 (Shipley Order.) 48 & 49 Vict. c. 66. (Shipley Order.) 53 & 54 Vict. c. 182.	60,000	15,500	75,500	16,211	15,500	31,711	7
Bradford Corporation • 4 ft.	43 & 44 Vict. c. 173 46 & 47 Vict. c. 131. 50 Vict. c. 21. 51 & 52 Vict. c. 64. 53 & 54 Vict. c. 181.	Corporation Return:						
		—	176,100	176,100	- -	94,540	94,540	8
		(c) Bradford Tramways and Omnibus Company's Return:						
		80,000	15,000	95,000	33,600	11,300	44,900	9
		Bradford and Shelf Tramway Company's Return:						
		20,000	- -	20,000	13,500	- -	13,500	10
Brighton and Shoreham • 3 ft. 6 ins.	45 & 46 Vict. c. 89	10,000	- -	10,000	9,170	- -	9,170	11
Bristol • 4 ft. 8½ ins.	35 & 36 Vict. c. 158 38 & 39 Vict. c. 167. 39 & 40 Vict. c. 150. 40 & 41 Vict. c. 124. 42 & 43 Vict. c. 193. 43 & 44 Vict. c. 172. 44 & 45 Vict. c. 164. 45 & 46 Vict. c. 138. 50 & 51 Vict. c. 196. 54 & 55 Vict. c. 162.	200,000	66,666	266,666	200,000	53,530	253,530	12
Burnley and District • 4 ft. 8½ ins.	42 & 43 Vict. c. 193 45 & 46 Vict. c. 138. 50 & 51 Vict. c. 196.	100,000	25,000	125,000	46,507	23,250	69,757	13
Bury, Rochdale, and Oldham • 3 ft. 6 ins. and 4 ft. 8½ ins.	44 & 45 Vict. c. 164 (Bury and District and Rochdale Orders). 45 & 46 Vict. c. 101. 47 & 48 Vict. c. 164. 48 & 49 Vict. c. 72. 50 & 51 Vict. c. 9.	42,000	101,320	143,320	42,000	101,320	143,320	14
Cambridge Street 4 ft.	42 & 43 Vict. c. 165 43 & 44 Vict. c. 172.	20,000	5,000	25,000	20,000	(d) 5,000	25,000	15
Cardiff 4 ft. 8½ ins.	34 & 35 Vict. c. 189 36 & 37 Vict. c. 197. 41 & 42 Vict. c. 163. 47 & 48 Vict. c. 112. 48 & 49 Vict. c. 66.	(e) 146,111	- -	146,111	(e) 146,111	- -	146,111	16
Cardiff District and Penarth Harbour • 4 ft. 8½ ins.	43 & 44 Vict. c. 172 48 & 49 Vict. c. 66.	50,000	- -	50,000	20,355	1,600	21,955	17
Chester 4 ft. 8½ ins.	41 & 42 Vict. c. 174	32,000	8,000	40,000	31,820	5,250	37,070	18
Chesterfield 4 ft. 8½ ins.	42 & 43 Vict. c. 193	No Return received.		—	—	—	—	19
Coventry and District• 3 ft. 6 ins.	43 & 44 Vict. c. 185 45 & 46 Vict. c. 120. 46 & 47 Vict. c. 140. 47 & 48 Vict. c. 220. 50 & 51 Vict. c. 86.	No Return received.		—	—	—	—	20
Croydon • 4 ft. 8½ ins.	41 & 42 Vict. c. 224 43 & 44 Vict. c. 172. 45 & 46 Vict. c. 156. 46 & 47 Vict. c. 174. 52 & 53 Vict. c. 106.	47,000	21,000	68,000	42,016	20,290	62,306	21

(a) Fixed engines, &c.
(b) Construction, equipment, formation, and legal expenses.
(c) This company has also other undertakings, all of which, with the tramways, are amalgamated in its books. This Return is therefore compiled mainly upon estimates.

and Expended; Length of Tramway Authorised and Open, &c., to 30th June 1893—*continued.*

	CAPITAL EXPENDED.								Length of Tramway Authorised (exclusive of Expired Powers).			Length of Tramway Open for Public Conveyance of Passengers.		
	On Lines and Works Open for Traffic (including Land, Buildings, &c.).	On Lines and Works in course of Construction (including Land, Buildings, &c.).	On Horses.	On Locomotive Engines.	On Cars.	Legal and Parliamentary.	Any other Expenses not included in the foregoing.	TOTAL.	Double Line.	Single Line.	TOTAL.	Double Line.	Single Line.	TOTAL.
	£.	£.	£.	£.	£.	£.	£.	£.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.
1	21,976	- -	- -	(a) 2,619	1,691	686	1,992	28,964	0 49	1 30	1 79	0 49	1 30	1 79
2	67,964	- -	- -	- -	- -	2,697	2,566	73,227	5 13	7 52	12 65	5 13	7 52	12 65
3	8,839	- -	- -	- -	- -	239	- -	9,078	0 27	1 13	1 40	0 27	1 13	1 40
4	7,314	- -	- -	- -	- -	503	- -	7,817	0 67	1 19	2 6	0 62	0 10	0 72
5	1,406	- -	- -	- -	- -	503	- -	1,909	0 9	0 16	0 25	0 9	0 16	0 25
6	37,249	- -	- -	- -	- -	380	- -	37,629	2 66	1 34	4 20	2 51	0 49	3 20
7	(b) 28,671	- -	- -	- -	- -	- -	- -	28,671	0 27	1 78	2 25	-	-	-
8	79,075	- -	- -	- -	- -	2,712	-	81,787						
9	16,252	- -	1,800	21,386	8,515	550	450	48,953	7 20	9 31	16 51	6 13	6 14	12 27
10	4,672	- -	- -	11,507	3,048	- -	1,166	20,394						
11	7,314	- -	990	- -	852	- -	-	9,156	0 65	3 72	4 57	0 61	3 61	4 42
12	226,745	6,830	24,180	- -	Included in amount in first Column.			257,755	9 41	6 78	16 39	8 73	5 14	14 7
13	58,084	27	- -	9,745	3,045	373	- -	71,274	1 62	6 73	8 55	1 19	5 73	7 12
14	107,152	- -	- -	24,606	Included in previous Column.	13,214	1,189	146,161	5 75	21 5	27 0	5 75	21 5	27 0
15	25,000	- -	Details of Capital Expenditure not given				- -	25,000	0 54	2 0	2 54	0 54	2 0	2 54
16	(c) 149,921	- -	- -	- -	- -	- -	- -	149,921	4 48	2 46	7 14	4 48	2 46	7 14
17	15,650	- -	- -	- -	- -	688	6,340	22,678	0 33	2 6	2 39	0 31	2 2	2 33
18	31,470	- -	2,475	- -	2,086	- -	289	36,320	0 79	1 31	2 30	0 79	1 31	2 30
19	—	—	—	—	—	—	—	—	-	-	-	-	-	-
20	—	—	—	—	—	—	—	—	-	-	-	-	-	-
21	68,000	- -	Undertaking purchased for lump sum				- -	68,000	1 30	9 33	10 63	1 30	5 33	6 63

(d) Loans reduced by paying off mortgage bonds (3,900 *l.*), now standing at 1,100 *l.*
(e) Includes amount expended in the purchase of the omnibus business of S. Andrews & Son.

PART I.—RETURN of Street and Road Tramways, showing Amount of Capital Authorised, Paid up,

NAME OF TRAMWAY, AND GAUGE. * Mechanical Power Authorised subject in most cases to Board of Trade approval).	Special Acts, or Acts confirming Provisional Orders, relating to the Tramways.	CAPITAL AUTHORISED. By Shares.	CAPITAL AUTHORISED. By Loans.	CAPITAL AUTHORISED. TOTAL.	CAPITAL PAID UP. By Shares.	CAPITAL PAID UP. By Loans (including Debenture Stock).	CAPITAL PAID UP. TOTAL.	
ENGLAND AND WALES—*continued.*		£.	£.	£.	£.	£.	£.	
Derby - - - - - - - - 4 ft.	42 & 43 Vict. c. 193 -	55,000	- -	55,000	52,930	- -	52,930	1
Dewsbury, Batley, and Birstal * - - 4 ft. 8½ ins.	36 & 37 Vict. c. 197 - 42 & 43 Vict. c. 193.	50,000	- -	50,000	38,088	5,000	43,088	2
Drypool and Marfleet * - - - - 4 ft. 8½ ins.	49 & 50 Vict. c. 21 - - 53 & 54 Vict. c. 181. 55 & 56 Vict. c. 194.	12,000	30,000	42,000	9,590	3,250	12,840	3
Dudley and Stourbridge * - - - 3 ft. 6 ins.	44 & 45 Vict. c. 163 - 48 & 49 Vict. c. 103. 50 Vict. c. 10.	100,000	- -	100,000	58,945	- -	58,945	4
Dudley, Sedgley, and Wolverhampton * 4 ft. 8½ ins.	43 & 44 Vict. c. 172 - 47 & 48 Vict. c. 112.	35,000	20,000	55,000	32,595	20,000	52,595	5
Eccles Corporation (formerly Barton, &c., Local Board). 4 ft. 8½ ins.	40 & 41 Vict. c. 124 -	- - -	17,000	17,000	- -	17,000	17,000	6
Exeter - - - - - - - - 3 ft. 6 ins.	44 & 45 Vict. c. 130 -	(*a*) 6,600	- -	6,600	(*a*) 6,600	- -	6,600	7
Folkestone, Sandgate, and Hythe * - 4 ft. 8½ in.	47 & 48 Vict. c. 166 - 49 & 50 Vict. c. 118. 51 & 52 Vict. c. 28. 52 & 53 Vict. c. 88. 54 & 55 Vict. c. 29. 55 & 56 Vict. c. 89.	No Return received.		—	—	—	—	8
Gateshead and District * - - - 4 ft. 8½ ins.	43 & 44 Vict. c. 164 - 45 & 46 Vict. c. 145. 46 & 47 Vict. c. 141.	80,000	20,000	100,000	80,000	20,000	100,000	9
Gloucester - - - - - - - 4 ft.	41 & 42 Vict. c. 231 -	16,000	8,000	24,000	16,000	- -	16,000	10
Gosport, Alverstoke, and Bury Cross * 3 ft.	52 & 53 Vict. c. 111 -	- - - -	- -	- -	- -	- -	- -	11
Gravesend, Rosherville, and Northfleet.* 3 ft. 6 ins.	44 & 45 Vict. c. 105 - 47 & 48 Vict. c. 102.	10,000	(*b*) 6,200	(*b*) 16,200	7,201	6,200	(*b*) 13,401	12
Great Grimsby - - - - - - 4 ft. 8½ ins.	42 & 43 Vict. c. 137 - 50 Vict. c. 10.	35,000	8,750	43,750	35,000	- -	35,000	13
Harrow Road and Paddington - - 4 ft. 8½ ins.	49 & 50 Vict. c. 104 - 54 & 55 Vict. c. 168.	90,000	15,000	105,000	60,160	13,800	73,960	14
Hartlepools * - - - - - - 3 ft. 6 ins.	46 & 47 Vict. c. 131 - 47 & 48 Vict. c. 102. 51 & 52 Vict. c. 95.	No Return received.		—	—	—	—	15
Highgate Hill * - - - - - - 3 ft. 6 ins.	45 & 46 Vict. c. 70 - -	No Return received.		—	—	—	—	16
Huddersfield Corporation * - - - 4 ft. 8½ ins.	43 & 44 Vict. c. 99 - 45 & 46 Vict. c. 236. 53 & 54 Vict. c. 55.	- -	140,500	140,500	- -	139,500	139,500	17
Hull Street - - - - - - - 4 ft. 8½ ins.	35 & 36 Vict. c. 158 - 38 & 39 Vict. c. 159. 40 & 41 Vict. c. 124. 41 Vict. c. 54.	No Return received.		—	—	—	—	18
Ipswich * - - - - - - - 3 ft. 6 ins.	42 & 43 Vict. c. 193 - 43 & 44 Vict. c. 172. 44 & 45 Vict. c. 109. 45 & 46 Vict. c. 51. 53 & 54 Vict. c. 66.	40,000	10,000	50,000	32,930	- -	32,930	19
Keighley * - - - - - - - 4 ft.	51 & 52 Vict. c. 122 -	23,000	- -	23,000	12,351	- -	12,351	20
Lancaster and District * - - - 4 ft. 8½ in.	52 & 53 Vict. c. 110 -	40,000	- -	40,000	24,222	13,991	38,213	21
Lea Bridge, Leyton, and Walthamstow 4 ft. 8½ ins. *	44 & 45 Vict. c. 170 - 47 & 48 Vict. c. 244. 52 & 53 Vict. c. 158. 53 & 54 Vict. c. 182.	40,000	10,000	50,000	20,570	5,000	25,570	22
Leamington and Warwick - - - 4 ft. 8½ ins.	42 & 43 Vict. c. 193 - 45 & 46 Vict. c. 138.	25,000	(*d*) 7,900	32,900	15,850	7,900	23,750	23
Leeds (Company) * - - - - 4 ft. 8½ ins.	34 & 35 Vict. c. 189 - 35 & 36 Vict. c. 174. 40 & 41 Vict. c. 169. 44 & 45 Vict. c. 150.	250,000	62,250	312,250	160,000	21,370	181,370	24
Leeds Corporation * - - - - 4 ft. 8½ ins.	51 & 52 Vict. c. 64 - -	- - -	21,000	21,000	- -	21,000	21,000	25
Leicester - - - - - - - 4 ft. 8½ ins.	36 & 37 Vict. c. 197 - 40 & 41 Vict. c. 170. 47 & 48 Vict. c. 80.	100,000	24,000	124,000	95,000	23,500	118,500	26

(*a*) Amount of capital expended.
(*b*) The nominal capital was by Special Resolution and Order of Court, 15th July 1890, reduced to 10,000 *l.*
(*c*) The difference between capital outlay to 31st October 1893, and the debenture share capital at that date has been provided by temporary loans, and out of revenue.

and Expended; Length of Tramway Authorised and Open, &c., to 30th June 1893—*continued.*

	CAPITAL EXPENDED.								Length of Tramway Authorised (exclusive of Expired Powers).			Length of Tramway Open for Public Conveyance of Passengers.		
	On Lines and Works Open for Traffic (including Land, Buildings, &c.).	On Lines and Works in course of Construction (including Land, Buildings, &c.).	On Horses.	On Locomotive Engines.	On Cars.	Legal and Parliamentary.	Any other Expenses not included in the foregoing.	TOTAL.	Double Line.	Single Line.	TOTAL.	Double Line.	Single Line.	TOTAL.
	£.	£.	£.	£.	£.	£.	£.	£.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.
1	54,949	- -	- -	Details of Capital Expenditure not given			- -	54,949	1 27	3 37	4 64	1 27	3 37	4 64
2	37,405	- -	25	6,200	2,680	2,281	- -	48,591	0 50	3 58	4 28	0 37	3 66	4 23
3	7,869	- -	- -	4,227	2,040	2,125	220	16,431	0 18	1 12	1 30	0 17	1 10	1 27
4	46,931	- -	- -	7,118	2,105	4,600	385	61,139	0 44	4 48	5 12	0 44	4 48	5 12
5	54,751	- -	- -	Details of Capital Expenditure not given			- -	54,751	0 36	5 26	5 62	0 36	5 26	5 62
6	17,000	- -	- -	- -	- -	- -	- -	17,000	0 52	1 44	2 16	0 52	1 44	2 16
7	6,600	- -	- -	- -	Details not given	- -	- -	6,600	0 26	2 4	2 30	0 26	2 4	2 30
8	—	—	—	—	—	—	—	—	–	–	–	–	–	–
9	66,000	- -	- -	13,700	4,725	11,600	3,406	99,431	1 55	4 65	6 40	1 55	4 65	6 40
10	16,000	- -	- -	Undertaking purchased for a lump sum			- -	16,000	0 43	2 36	2 79	0 43	2 33	2 76
11	- -	- -	- -	- -	- -	- -	- -	- -	0 29	2 6	2 35	–	–	–
12	12,565	- -	- -	- -	888	3,999	3,246	(*b*) 20,698	0 17	2 3	2 20	0 17	2 3	2 20
13	32,241	- -	2,535	- -	2,090	- -	- -	36,866	1 12	3 66	4 78	1 4	3 63	4 67
14	58,578	4,266	3,822	- -	3,185	7,695	2,783	80,329	6 6	3 9	9 15	1 57	1 11	2 68
15	—	—	—	—	—	—	—	—	–	–	–	–	–	–
16	—	—	—	—	—	—	—	—	–	–	–	–	–	–
17	106,179	- -	- -	17,817	6,658	2,891	80	133,625	1 14	29 71	31 5	1 0	17 44	18 44
18	—	—	—	—	—	—	—	—	–	–	–	–	–	–
19	31,473	- -	600	- -	1,225	614	167	34,079	0 68	3 33	4 21	0 68	3 33	4 21
20	12,970	- -	840	- -	1,084	1,065	1,446	17,405	0 62	3 24	4 6	0 55	1 53	2 28
21	28,928	- -	1,862	- -	2,073	1,345	- -	34,208	3 2	2 65	5 67	2 49	1 55	4 24
22	46,759	- -	- -	- -	- -	- -	- -	(*c*) 46,759	1 20	3 44	4 64	1 20	3 44	4 64
23	19,429	- -	1,243	- -	1,447	1,739	455	24,313	0 23	2 57	3 0	0 23	2 57	3 0
24	(*c*) 153,024	- -	11,842	18,138	14,236	- -	2,982	200,222	8 8	6 5	14 13	8 8	6 5	14 13
25	22,170	- -	- -	- -	- -	- -	- -	22,170	2 25	1 48	3 73	2 4	1 3	3 7
26	92,125	- -	11,467	- -	13,170	5,594	- -	122,356	2 37	9 0	11 37	1 73	7 1	8 74

(*d*) Amount raised.
(*e*) Of this sum 142,000*l.* represents the amount of purchase money paid to the original promoters.

PART I.—RETURN of Street and Road Tramways, showing Amount of Capital Authorised, Paid up,

NAME OF TRAMWAY, AND GAUGE. * Mechanical Power Authorised (subject in most cases to Board of Trade approval).	Special Acts, or Acts confirming Provisional Orders, relating to the Tramways.	CAPITAL AUTHORISED. By Shares.	CAPITAL AUTHORISED. By Loans.	CAPITAL AUTHORISED. TOTAL.	CAPITAL PAID UP. By Shares.	CAPITAL PAID UP. By Loans (including Debenture Stock).	CAPITAL PAID UP. TOTAL.	
ENGLAND AND WALES—*continued.*		£.	£.	£.	£.	£.	£.	
Lincoln - - - - - - 3 ft. 6 ins.	44 & 45 Vict. c. 164 -	20,000	- -	20,000	10,500	- -	10,500	1
Liverpool Corporation * - - - - 4 ft. 8½ ins.	31 & 32 Vict. c. 167 - 33 & 34 Vict. c. 176. 34 & 35 Vict. c. 157. 35 & 36 Vict. c. 129. 38 & 39 Vict. c. 48. 42 & 43 Vict. c. 96. 42 & 43 Vict. c. 193. 43 & 44 Vict. c. 126. 44 & 45 Vict. c. 105. 45 & 46 Vict. c. 92. 46 & 47 Vict. c. 141. 47 & 48 Vict. c. 112. 48 & 49 Vict. c. 145. 51 & 52 Vict. c. 95. 54 & 55 Vict. c. 162. 55 & 56 Vict. c. 134.	Corporation Return: — / Lessees' Return: 445,000	468,851 / 111,250	468,851 / 556,250	- - / 445,000	310,000 / 19,000	310,000 / 464,000	2 / 3
Llanelly - - - - - - - 3 ft.	43 & 44 Vict. c. 172 -	15,000	- -	15,000	7,860	- -	7,860	4
London * - - - - - - - 4 ft. 8½ ins.	32 & 33 Vict. c. 94 - 32 & 33 Vict. c. 95. 33 & 34 Vict. c. 167. 33 & 34 Vict. c. 173. 33 & 34 Vict. c. 174. 36 & 37 Vict. c. 55. 36 & 37 Vict. c. 204. 36 & 37 Vict. c. 215. 36 & 37 Vict. c. 223. 43 & 44 Vict. c. 155. 47 & 48 Vict. c. 57. 51 & 52 Vict. c. 144. 52 & 53 Vict. c. 124. 53 Vict. c. 24.	480,000	430,000	910,000	480,000	380,000	860,000	5
London, Camberwell, and Dulwich - 4 ft. 8½ ins.	45 & 46 Vict. c. 213 - 46 & 47 Vict. c. 227. 48 & 49 Vict. c. 199. 50 & 51 Vict. c. 183.	20,000	5,000	25,000	20,150	10,000	30,150	6
London, Deptford, and Greenwich * - 4 ft. 8½ ins.	42 & 43 Vict. c. 73 - - 44 & 45 Vict. c. 173. 52 & 53 Vict. c. 148. 54 & 55 Vict. c. 209.	202,000	50,500	252,500	129,889	32,500	162,389	7
London Southern - - - - - 4 ft. 8½ ins.	45 & 46 Vict. c. 257 - 47 & 48 Vict. c. 191.	102,000	25,500	127,500	90,000	22,500	112,500	8
London Street - - - - - - 4 ft. 8½ ins.	33 & 34 Vict. c. 171 - 36 & 37 Vict. c. 183. 36 & 37 Vict. c. 215. 36 & 37 Vict. c. 221. 40 & 41 Vict. c. 219. 42 & 43 Vict. c. 189. 45 & 46 Vict. c. 163. 47 & 48 Vict. c. 94. 48 & 49 Vict. c. 115. 50 Vict. c. 4. 51 & 52 Vict. c. 78.	465,500	121,000	586,500	310,000	72,500	382,500	9
Manchester Carriage and Tramways Company. 4 ft. 8½ ins.	40 & 41 Vict. c. 124 - 41 & 42 Vict. c. 141. 41 & 42 Vict. c. 163. 42 & 43 Vict. c. 190. 43 & 44 Vict. c. 112. 45 & 46 Vict. c. 138.	500,000	125,000	625,000	404,080	108,025	512,105	10
Manchester Corporation - - - 4 ft. 8½ ins.	38 & 39 Vict. c. 167 - 40 & 41 Vict. c. 124 (Rusholme Local Board Order). 41 & 42 Vict. c. 163. 44 & 45 Vict. c. 105 (Manchester Corporation and Rusholme Local Board Orders).	- -	258,000	258,000	- -	190,218	190,218	11
Matlock * - - - - - - - 3 ft. 6 ins.	54 & 55 Vict. c. 148 -	20,000	- -	20,000	14,025	- -	14,025	12
Middlesbrough and Stockton - - 4 ft. 8½ ins.	36 & 37 Vict. c. 197 - 38 & 39 Vict. c. 95. 44 & 45 Vict. c. 95.	(b) 15,677	- -	15,677	(b) 15,677	- -	15,677	13
Morecambe - - - - - - - 4 ft. 8½ ins.	49 & 50 Vict. c. 25 - - 55 & 56 Vict. c. 194.	28,000	7,000	35,000	18,232	1,500	19,732	14
Moss Side Local Board - - - - 4 ft. 8½ ins.	41 & 42 Vict. c. 221 -	- -	11,000	11,000	- -	11,000	11,000	15
Neath and District - - - - - 4 ft. 8½ ins.	36 & 37 Vict. c. 197 -	35,000	16,000	51,000	26,123	10,335	36,458	16

(a) Including goodwill account (243,840 *l.*), which is being met by the setting aside of at least 3,000 *l.* per annum.
(b) Amount expended on these tramways, as the company's capital is applicable also to other undertakings.

and Expended; Length of Tramway Authorised and Open, &c., to 30th June 1893—*continued.*

	CAPITAL EXPENDED.								Length of Tramway Authorised (exclusive of Expired Powers).			Length of Tramway Open for Public Conveyance of Passengers.		
	On Lines and Works Open for Traffic (including Land, Buildings, &c.).	On Lines and Works in course of Construction (including Land, Buildings, &c.).	On Horses.	On Locomotive Engines.	On Cars.	Legal and Parliamentary.	Any other Expenses not included in the foregoing.	TOTAL.	Double Line.	Single Line.	TOTAL.	Double Line.	Single Line.	TOTAL.
	£.	£.	£.	£.	£.	£.	£.	£.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.
1	8,475	- -	363	- -	800	380	- -	10,018	0 22	1 42	1 64	0 22	1 42	1 64
2	303,973	- -	- -	- -	- -	5,169	- -	309,147	18 30	10 40	28 70	18 30	10 39	28 69
3	190,714	- -	80,376	- -	Cars, 37,273 Omnibuses, 10,310	12,138	(a)244,236	575,047						
4	7,260	- -	80	- -	684	696	- -	8,720	0 17	0 61	0 78	0 17	0 61	0 78
5	613,261	- -	101,252	- -	58,000	- -	46,020	818,533	21 73	1 27	23 20	21 73	1 27	23 20
6	- -	24,150	- -	- -	- -	6,000	- -	30,150	0 30	2 70	3 20	-	-	-
7	141,785	- -	11,164	- -	7,191	12,046	- -	172,186	2 60	5 22	8 2	1 9	3 63	4 72
8	111,969	- -	-	Details cannot be supplied		- -	- -	111,969	1 73	3 67	5 60	1 73	3 67	5 60
9	317,679	- -	42,586	- -	26,125	49,704	- -	436,094	12 61	2 34	15 15	12 15	1 22	13 37
10	205,541	- -	91,586	- -	75,460	13,921	- -	386,508	21 37	3 52	25 9	21 37	3 52	25 9
11	141,022	- -	- -	- -	- -	3,944	360	145,326	19 46	12 23	31 69	21 0	9 39	30 39
12	12,561	- -	- -	- -	- -	586	484	13,631	0 4	0 36	0 40	0 4	0 36	0 40
13	9,510	- -	816	(c) 3,741	1,207	403	- -	15,677	0 24	2 37	2 61	0 24	2 37	2 61
14	15,502	- -	1,526	- -	(d)	1,574	800	19,402	1 63	2 31	4 14	1 37	1 23	2 60
15	10,601	- -	- -	- -	- -	399	- -	11,000	0 65	0 65	1 50	0 65	0 65	1 50
16	39,680	- -	- -	No details given	- -	- -	- -	39,680	0 23	3 54	3 77	0 23	3 54	3 77

(c) On ferry steamers.

(d) Cars are purchased on deferred payments.

PART I.—RETURN of Street and Road Tramways, showing Amount of Capital Authorised, Paid up,

NAME OF TRAMWAY, AND GAUGE. * Mechanical Power Authorised (subject in most cases to Board of Trade approval).	Special Acts, or Acts confirming Provisional Orders, relating to the Tramways.	CAPITAL AUTHORISED. By Shares.	CAPITAL AUTHORISED. By Loans.	CAPITAL AUTHORISED. TOTAL.	CAPITAL PAID UP. By Shares.	CAPITAL PAID UP. By Loans (including Debenture Stock).	CAPITAL PAID UP. TOTAL.	
ENGLAND AND WALES—*continued.*		£.	£.	£.	£.	£.	£.	
Newcastle-upon-Tyne Corporation * - 4 ft. 8½ ins.	40 & 41 Vict. c. 151 - 42 & 43 Vict. c. 193. 45 & 46 Vict. c. 172. 55 & 56 Vict. c. 236 -	Corporation Return: —	80,000	80,000	- -	64,500	64,500	1
		Lessees' Return: (a) 40,000	- -	40,000	(a) 40,000	- -	40,000	2
Newport (Mon.) (Company's) - - 4 ft. 8½ ins.	36 & 37 Vict. c. 197 -	10,000	5,000	15,000	10,000	500	10,500	3
Newport Mon. (Corporation) * - - 4 ft. 8½ ins.	55 & 56 Vict. c. 123 -	- -	25,000	25,000	- -	- -	- -	4
Northampton Street * - - - - 3 ft. 6 ins.	43 & 44 Vict. c. 101 - 45 & 46 Vict. c. 110. 55 & 56 Vict. c. 194.	45,000	11,250	56,250	45,000	10,000	55,000	5
North Bierley Local Board * - - 4 ft.	48 & 49 Vict. c. 66 (Bradford and Shelf Order). 54 & 55 Vict. c. 148 (Bradford and Wyke Order).	- -	18,000	18,000	- -	17,000	17,000	6
North Metropolitan * - - - - - 4 ft. 8½ ins.	32 & 33 Vict. c. 101 - 33 & 34 Vict. c. 172. 34 & 35 Vict. c. 179. 36 Vict. c. 78. 37 & 38 Vict. c. 45. 40 & 41 Vict. c. 111. 43 & 44 Vict. c. 97. 45 & 46 Vict. c. 136. 47 & 48 Vict. c. 168. 48 Vict. c. 26. 50 Vict. c. 12. 51 & 52 Vict. c. 122. 53 & 54 Vict. c. 46. 55 & 56 Vict. c. 160.	1,242,000	310,500	1,552,500	1,109,127	275,500	1,384,627	7
North Shields and Tynemouth District* 3 ft.	42 & 43 Vict. c. 193 (Tynemouth and District Order). 45 & 46 Vict. c. 70. 48 & 49 Vict. c. 66 (Tynemouth Order).	6,000	- -	6,000	6,000	- -	6,000	8
North Staffordshire * - - - - 4 ft.	42 & 43 Vict. c. 193 (Stoke-upon-Trent, &c. Order). 43 & 44 Vict. c. 173. 44 & 45 Vict. c. 105. 45 & 46 Vict. c. 138. 46 & 47 Vict. c. 131. 50 Vict. c. 10.	(b) 140,000	20,000	160,000	(b) 128,472	17,590	146,062	9
Nottingham and District * - - - 4 ft. 8½ ins.	40 & 41 Vict. c. 124 - 47 & 48 Vict. c. 112.	80,000	30,000	110,000	80,000	24,025	104,025	10
Oldham Borough (Corporation) * - 4 ft. 8½ ins.	41 & 42 Vict. c. 163 - 45 & 46 Vict. c. 138.	- -	55,000	55,000	- -	51,283	51,283	11
Oxford (City of) and District - - 4 ft.	42 & 43 Vict. c. 193 - 46 & 47 Vict. c. 133. 50 Vict. c. 21.	40,000	16,800	56,800	34,030	16,800	50,830	12
Plymouth Corporation * - - - - 3 ft. 6 ins.	45 & 46 Vict. c. 159 - 47 & 48 Vict. c. 240. 50 Vict. c. 24. 50 Vict. c. 52. 52 & 53 Vict. c. 207. 55 & 56 Vict. c. 162.	- -	23,700	23,700	- -	12,500	12,500	13
Plymouth, Stonehouse, and Devonport 4 ft. 8½ ins.	33 & 34 Vict. c. 169 - 37 & 38 Vict. c. 72.	(d) 54,631	- -	54,631	(d) 54,631	- -	54,631	14
Pontypridd and Rhondda Valley * - 3 ft. 6 ins.	45 & 46 Vict. c. 70 - - 51 & 52 Vict. c. 64.	No Return received.		—	—	—	—	15
Poole and Bournemouth * - - - 3 ft. 6 ins.	53 & 54 Vict. c. 182 -	- -	- -	- -	- -	- -	- -	16
Portsmouth Street (including Borough of Portsmouth, Kingston, Fratton, and Southsea).* 4 ft. 8½ ins. and 3 ft. 6 ins.	33 & 34 Vict. c. 170 - 37 & 38 Vict. c. 183. 39 & 40 Vict. c. 150. 40 & 41 Vict. c. 124. 42 Vict. c. 27. 42 & 43 Vict. c. 118. 44 Vict. c. 46. 46 & 47 Vict. c. 112. 46 & 47 Vict. c. 187. 50 & 51 Vict. c. 141.	(e) 157,218	- -	157,218	(e) 157,218	- -	157,218	17
Preston Corporation and Fulwood Local Board.* 3 ft. 6 ins.	41 & 42 Vict. c. 52 - - 43 & 44 Vict. c. 118. 43 & 44 Vict. c. 162. 48 & 49 Vict. c. 35.	Corporation Return: —	38,000	38,000	- -	26,576	26,576	18
		Local Board Return: —	4,000	4,000	- -	2,104	2,104	19

(a) Capital expended by lessees
(b) Ordinary share capital reduced by order of the Court dated 3rd August 1889, by 45,576*l.*, being 4*l.* per share on 11,394 ordinary shares of 10*l.* each.
(e) The Corporation purchased the lines which had never previously been worked from the Plymouth Tramways Company for 12,500*l.*, under the provisions and authority of the Plymouth Tramways Act, 1892.

and Expended; Length of Tramway Authorised and Open, &c., to 30th June 1893—*continued.*

	CAPITAL EXPENDED.								Length of Tramway Authorised (exclusive of Expired Powers).			Length of Tramway Open for Public Conveyance of Passengers.		
	On Lines and Works Open for Traffic (including Land, Buildings, &c.).	On Lines and Works in course of Construction (including Land, Buildings, &c.).	On Horses.	On Locomotive Engines.	On Cars.	Legal and Parliamentary.	Any other Expenses not included in the foregoing.	TOTAL.	Double Line.	Single Line.	TOTAL.	Double Line.	Single Line.	TOTAL.
	£.	£.	£.	£.	£.	£.	£.	£.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.
1	63,497	- -	- -	- -	- -	253	- -	63,750	} 6 22	5 74	12 16	4 16	7 20	11 36
2	10,500	- -	11,500	- -	8,500	3,700	5,800	40,000						
3	8,445	- -	1,000	- -	1,000	1,816	139	12,400	0 14	1 45	1 59	0 12	1 1	1 13
4	- -	- -	- -	- -	- -	- -	- -	- -	0 23	2 42	2 65	-	-	-
5	43,726	- -	3,242	- -	2,020	5,700	- -	54,688	1 22	4 11	5 33	1 22	4 11	5 33
6	17,707	- -	- -	- -	- -	- -	- -	17,707	2 29	1 37	3 66	2 29	1 37	3 66
7	1,167,271	(Included in previous Column).	139,726	- -	71,780	66,757	- -	1,445,534	42 12	13 2	55 14	38 78	12 57	51 55
8	3,454	- -	- -	1,458	669	- -	1,036	6,617	0 56	1 70	2 46	0 56	1 70	2 46
9	102,949	- -	280	34,833	4,606	2,758	3,241	148,667	2 29	18 32	20 61	0 74	6 6	7 0
10	86,010	- -	8,340	917	8,670	2,220	1,531	107,688	7 40	3 0	10 40	7 40	3 0	10 40
11	47,058	- -	- -	- -	- -	552	1,476	49,086	3 66	4 67	8 53	3 55	4 54	8 29
12	47,087	- -	3,056	- -	2,582	- -	- -	52,725	1 2	3 0	4 2	1 2	3 0	4 2
13	20,638	- -	3,399	- -	1,245	227	257	(e) 25,766	0 74	2 46	3 40	0 74	2 36	3 30
14	(d) 54,531	- -	- -	Details cannot be supplied		- -	- -	54,531	0 32	1 72	2 24	0 32	1 72	2 24
15	—	—	—	—	—	—	—	—	-	-	-	-	-	-
16	- -	- -	- -	- -	- -	- -	- -	- -	0 24	4 35	4 59	-	-	-
17	(e) 157,218	- -	- -	- -	- -	- -	- -	157,218	2 53	17 42	20 15	0 78	14 29	15 27
18	26,576	- -	- -	- -	- -	- -	- -	26,576	0 59	6 31	7 10	0 6	5 19	} 6 26
19	2,104	- -	- -	- -	- -	- -	- -	2,104	-	1 1	1 1	- -	1 1	

(*d*) Amount expended upon the tramways and the purchase of an omnibus business.
(*e*) Amount expended on the tramways, buildings, and equipment, and cost of acquiring several omnibus businesses.

PART I.—RETURN of Street and Road Tramways, showing Amount of Capital Authorised, Paid up,

NAME OF TRAMWAY, AND GAUGE. * Mechanical Power Authorised (subject in most cases to Board of Trade approval).	Special Acts, or Acts confirming Provisional Orders, relating to the Tramways.	CAPITAL AUTHORISED. By Shares.	CAPITAL AUTHORISED. By Loans.	CAPITAL AUTHORISED. TOTAL.	CAPITAL PAID UP. By Shares.	CAPITAL PAID UP. By Loans (including Debenture Stock).	CAPITAL PAID UP. TOTAL.	
ENGLAND AND WALES—*continued.*		£.	£.	£.	£.	£.	£.	
Reading - - - - - - - - 4 ft.	41 & 42 Vict. c. 231 - -	50,000	- -	50,000	21,500	- -	21,500	1
Rossendale Valley * - - - - 4 ft.	45 & 46 Vict. c. 101 (Manchester, Bury, &c. Order). 50 Vict., Sess. 2, c. 9. 51 & 52 Vict. c. 136. 52 & 53 Vict. c. 214. 55 & 56 Vict. c. 86.	70,000	15,000	85,000	55,640	10,000	65,640	2
St. Helen's and District * - - - 4 ft. 8½ ins.	42 & 43 Vict. c. 192 - 44 Vict. c. 45. 46 & 47 Vict. c. 126.	50,000	- -	50,000	23,410	15,000	38,410	3
Salford Corporation * - - - - 4 ft. 8½ ins.	38 & 39 Vict. c. 101 - 48 & 49 Vict. c. 102.	- -	125,000	125,000	- -	90,137	90,137	4
Sheffield Corporation - - - - 4 ft. 8½ ins.	35 & 36 Vict. c. 143 -	Corporation Return: —	80,000	80,000	- -	80,000	80,000	5
		Lessees' Return: 80,000	10,000	90,000	80,000	- -	80,000	6
Shelf * - - - - - - - - 4 ft.	48 & 49 Vict. c. 66 (Bradford and Shelf Order).	5,000	- -	5,000	3,468	- -	3,468	7
Southampton Street - - - - 4 ft. 8½ ins.	40 & 41 Vict. c. 221 - 51 & 52 Vict. c. 45.	68,000	21,150	89,150	60,000	16,650	76,650	8
South Eastern Metropolitan - - 4 ft. 8½ in.	51 & 52 Vict. c. 186 -	50,000	12,500	62,500	50,000	12,500	62,500	9
South Gosforth * - - - - - 4 ft. 8½ ins.	44 & 45 Vict. c. 105 -	(*d*) 20,900	- -	20,900	(*d*) 20,900	- -	20,900	10
South London - - - - - - 4 ft. 8½ ins.	42 & 43 Vict. c. 197 - 43 & 44 Vict. c. 16. 44 & 45 Vict. c. 184. 45 & 46 Vict. c. 192. 46 & 47 Vict. c. 167.	293,000	73,000	366,000	277,210	89,650	366,860	11
Southport - - - - - - - 4 ft. 8½ ins.	35 & 36 Vict. c. 158 - 39 & 40 Vict. c. 127. 39 & 40 Vict. c. 150.	39,000	10,000	49,000	39,000	(*e*) 10,388	(*f*) 49,388	12
South Shields Corporation * - - 3 ft. 6 ins.	44 & 45 Vict. c. 105 - 46 & 47 Vict. c. 93.	Corporation Return: —	18,050	18,050	- -	16,887	16,887	13
		Lessees' Return: 10,000	- -	10,000	3,000	- -	3,000	14
South Staffordshire * - - - - 3 ft. 6 ins.	42 & 43 Vict. c. 193 (Staffordshire Order). 43 & 44 Vict. c. 172. 43 & 44 Vict. c. 173 (Walsall and District Order). 44 & 45 Vict. c. 163 (Dudley and Tipton, South Staffordshire, and Wednesbury and West Bromwich Orders). 45 & 46 Vict. c. 70 (Staffordshire Order). 45 & 46 Vict. c. 101 (Walsall and District Order). 47 & 48 Vict. c 80 (Walsall and District Order). 50 Vict. c. 22. 52 & 53 Vict. c. 194.	Ordinary Stock, 129,650 Preference Shares, 86,580	50,000	266,230	333,194	49,830	383,024	15
Stockport and Hazel Grove - - - 4 ft. 8½ ins.	52 & 53 Vict. c. 110 -	17,000	- -	17,000	12,750	4,715	17,465	16
Stockton-on-Tees and District * - - 4 ft. and 3 ft.	43 & 44 Vict. c. 172 (Darlington and Stockton Orders). 47 & 48 Vict. c. 102. 52 & 53 Vict. c. 92.	100,000	12,000	112,000	69,584	12,000	81,584	17
Sunderland (Company) * - - - 4 ft. 8½ ins.	41 & 42 Vict. c. 231 - 42 & 43 Vict. c. 193. 43 & 44 Vict. c. 172. 44 & 45 Vict. c. 45 & 46 Vict. c. 70.	80,000	- -	80,000	80,000	- -	80,000	18
Sunderland Corporation * - - - 4 ft. 8½ ins.	42 & 43 Vict. c. 193 -	- -	25,000	25,000	-	17,450	17,450	19
Swansea * - - - - - - - 4 ft. 8½ ins.	37 & 38 Vict. c. 138 - 41 & 42 Vict. c. 147. 42 & 43 Vict. c. 193. 45 & 46 Vict. c. 128.	130,000	13,750	143,750	97,260	10,400	107,660	20
Tong Local Board * - - - - 4 ft.	53 & 54 Vict. c. 181 -	- -	8,000	8,000	- -	- -	- -	21
Wallasey - - - - - - - 4 ft. 8½ ins.	41 & 42 Vict. c. 238 - 49 & 50 Vict. c. 70.	No return received.		—	—	—	—	22

(*a*) Purchase-money paid to vendor.
(*b*) Capital expenditure has been reduced by revenue to 80,000 *l.*
(*c*) Contract for the lines, &c., was a lump sum of 62,500 *l.*
(*d*) Amount of capital expended.
(*e*) Owing to Bank.

and Expended; Length of Tramway Authorised and Open, &c., to 30th June 1893—*continued.*

	CAPITAL EXPENDED.								Length of Tramway Authorised (exclusive of Expired Powers).			Length of Tramway Open for Public Conveyance of Passengers.		
	On Lines and Works Open for Traffic (including Land, Buildings, &c.).	On Lines and Works in course of Construction (including Land, Buildings, &c.).	On Horses.	On Locomotive Engines.	On Cars.	Legal and Parliamentary.	Any other Expenses not included in the foregoing.	TOTAL.	Double Line.	Single Line.	TOTAL.	Double Line.	Single Line.	TOTAL.
	£.	£.	£.	£.	£.	£.	£.	£.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.
1	19,491	- -	1,140	- -	1,396	1,125	862	24,014	0 70	1 38	2 28	0 70	1 38	2 28
2	52,053	- -	- -	7,200	2,650	4,214	- -	66,117	1 10	8 7	9 17	1 32	5 15	6 47
3	(a) 39,750	- -	- -	780	208	212	2,205	43,155	0 69	9 73	10 62	0 69	9 73	10 62
4	90,137	- -	- -	- -	- -	- -	- -	90,137	8 1	4 59	12 60	8 1	4 59	12 60
5	90,507	- -	- -	- -	- -	- -	- -	(f) 90,507	9 46	0 58	10 24	9 14	0 20	9 34
6	51,883	- -	14,640	- -	9,200	8,288	- -	(b) 84,011						
7	3,464	- -	- -	- -	- -	- -	- -	3,464	0 5	0 52	0 57	0 5	0 52	0 57
8	71,693	- -	3,846	- -	2,530	- -	- -	78,069	0 28	5 52	6 0	-	5 3	5 3
9	(c) 62,500	- -	- -	- -	- -	- -	- -	62,500	0 61	1 64	2 45	0 61	1 64	2 45
10	13,000	- -	4,000	- -	2,400	1,000	500	20,900	0 29	0 30	0 59	0 29	0 30	0 59
11	295,324	- -	21,016	- -	14,280	34,412	3,589	368,621	8 31	4 39	12 70	8 31	4 39	12 70
12	37,599	- -	3,710	- -	4,240	2,650	1,189	49,388	0 74	5 48	6 42	0 74	5 48	6 42
13	17,918	- -	- -	- -	- -	739	1,247	19,904	1 29	4 39	5 68	0 64	1 59	2 4
14	- -	- -	1,253	- -	1,547	100	1,141	4,041						
15	311,649	- -	618	34,531	5,520	9,541	(g) 28,026	389,885	10 35	14 70	25 25	9 53	12 78	22 51
16	14,410	- -	1,623	- -	1,473	713	- -	18,219	0 70	2 68	3 58	0 66	2 49	3 35
17	74,042	- -	1,012	4,390	2,757	151	954	83,306	1 8	6 23	7 31	1 2	5 21	6 23
18	61,176	- -	2,430	- -	5,487	4,053	2,470	75,616	3 23	1 22	4 45	2 64	1 12	3 76
19	17,450	- -	- -	- -	- -	- -	- -	17,450	1 25	1 45	2 70	1 4	1 23	2 27
20	80,140	- -	3,525	2,213	4,077	12,318	5,907	108,180	4 12	1 27	5 39	4 12	1 27	5 39
21	- -	- -	- -	- -	- -	384	- -	384	0 19	1 5	1 24	-	-	-
22	—	—	—	—	—	—	—	—	-	-	-	-	-	-

(f) The company has a reserve fund of 13,550 *l.* accumulated out of profits, of which 2,500 *l.* is lent to the Preston Corporation, and the balance of 11,050 *l.* is deposited in Bank.
(g) £. 12,836 on account of an electric installation.

PART I.—RETURN of Street and Road Tramways, showing Amount of Capital Authorised, Paid up,

NAME OF TRAMWAY, AND GAUGE. * Mechanical Power Authorised (subject in most cases to Board of Trade approval).	Special Acts, or Acts confirming Provisional Orders, relating to the Tramways.	CAPITAL AUTHORISED. By Shares.	CAPITAL AUTHORISED. By Loans.	CAPITAL AUTHORISED. TOTAL.	CAPITAL PAID UP. By Shares.	CAPITAL PAID UP. By Loans (including Debenture Stock).	CAPITAL PAID UP. TOTAL.	
ENGLAND AND WALES – *continued.*		£.	£.	£.	£.	£.	£.	
Walton-on-the-Hill Local Board * 4 ft. 8½ ins.	43 & 44 Vict. c. 173	- -	35,000	35,000	- -	34,000	34,000	1
Wantage * 4 ft. 8½ ins.	37 & 38 Vict. c. 183 39 & 40 Vict. c. 42.	Ordinary, 10,000 Preference, 3,000	- -	13,000	11,170	- -	11,170	2
Wavertree Local Board 4 ft. 8½ ins.	41 & 42 Vict. c. 231	- -	20,000	20,000	- -	10,000	10,000	3
West Derby Local Board 4 ft. 8½ ins.	41 & 42 Vict. c. 231 45 & 46 Vict. c. 92.	- -	41,500	41,500	- -	41,500	41,500	4
West Metropolitan * 4 ft. 8½ ins.	36 & 37 Vict. c. 85 (Southall, Ealing, and Shepherd's Bush Order). 39 & 40 Vict. c. 150 (Shepherd's Bush Order). 44 & 45 Vict. c. 164 (Shepherd's Bush and Hammersmith Order). 45 & 46 Vict. c. 205. 47 & 48 Vict. c. 100. 50 & 51 Vict. c. 196. 52 & 53 Vict. c. 202. 54 & 55 Vict. c. 132.	(*a*) 240,430	53,750	294,180	(*a*) 170,000	32,500	202,500	5
Weston-super-Mare, Clevedon, and Portishead.* 4 ft. 8½ ins.	48 & 49 Vict. c. 182 53 & 54 Vict. c. 132. 55 & 56 Vict. c. 182.	No Return received.		—	—	—	—	6
Whitworth Local Board (formerly portion of the Bury, Rochdale, and Oldham).* 3 ft. 6 ins.	45 & 4 Vict. c. 101 (Manchester, Bury, Rochdale, &c., Order).	- -	- -	- -	- -	- -	- -	7
Wigan Corporation * 3 ft. 6 ins.	47 & 48 Vict. c. 193 47 & 48 Vict. c. 80.	Corporation Return: —	31,700	31,700	- -	- -	- -	8
		Lessees' Return: 50,000	7,000	57,000	25,000	7,000	32,000	9
Wirral 4 ft. 8½ ins.	37 & 38 Vict. c. 183	30,000	7,500	37,500	22,740	7,500	30,240	10
Wisbech and Upwell (Great Eastern Railway Company).* 4 ft. 8½ ins.	44 & 45 Vict. c. 134 45 & 46 Vict. c. 168.	(*d*) 39,719	- -	39,719	(*d*) 39,719	- -	39,719	11
Withington Local Board * 4 ft. 8½ ins.	43 & 44 Vict. c. 172	- -	25,000	25,000	- -	11,625	11,625	12
Wolverhampton * 4 ft. 8½ ins.	40 & 41 Vict. c. 124 41 & 42 Vict. c. 231. 43 & 44 Vict. c. 172.	100,000	- -	100,000	82,590	- -	82,590	13
Wolverton and Stony Stratford * 3 ft. 6 ins.	46 & 47 Vict. c. 93 50 & 51 Vict. c. 123.	No Return of Capital rendered		- -	- -	- -	- -	14
Wolverton and Stony Stratford (Deanshanger Extension).* 3 ft. 6 ins.	50 & 51 Vict. c. 123	No Return received.		—	—	—	—	15
Woolwich and South East London 3 ft. 6 ins.	43 & 44 Vict. c. 173 44 & 45 Vict. c. 105.	Ordinary, 48,000 Preference, 10,000	20,000	78,000	52,689	19,550	72,239	16
Worcester 3 ft.	44 & 45 Vict. c. 104 48 & 49 Vict. c. 66. 50 & 51 Vict. c. 123. 53 & 54 Vict. c. 181.	32,000	12,500	44,500	13,430	9,430	22,860	17
Wrexham District 3 ft.	36 & 37 Vict. c. 76	10,000	2,500	12,500	8,980	- -	8,980	18
Yarmouth and Gorleston 3 ft. 6 ins.	34 & 35 Vict. c. 189 (Lowestoft and Yarmouth Order). 46 & 47 Vict. c. 133.	20,000	- -	20,000	20,000	- -	20,000	19
York * 4 ft.	42 & 43 Vict. c. 193 44 & 45 Vict. c. 105.	8,500	6,000	14,500	8,500	6,000	14,500	20
TOTAL, ENGLAND AND WALES		8,899,196	4,564,681	13,463,877	7,595,258	3,557,922	11,153,180	21

(*a*) This has been reduced by the sum of 84,258*l.* (52 & 53 Vict. c. 202), the ordinary shares of 140,430*l.* being reduced to 56,172*l.*
(*b*) Amount paid by present company for undertaking. (*c*) Sheds. (*d*) Amount expended on tramway.

and Expended; Length of Tramway Authorised and Open, &c., to 30th June 1893—*continued.*

	CAPITAL EXPENDED.								Length of Tramway Authorised (exclusive of Expired Powers).			Length of Tramway Open for Public Conveyance of Passengers.		
	On Lines and Works Open for Traffic (including Land, Buildings, &c.).	On Lines and Works in course of Construction (including Land, Buildings, &c.).	On Horses.	On Locomotive Engines.	On Cars.	Legal and Parliamentary.	Any other Expenses not included in the foregoing.	TOTAL.	Double Line.	Single Line.	TOTAL.	Double Line.	Single Line.	TOTAL.
	£.	£.	£.	£.	£.	£.	£.	£.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.
1	31,718	- -	- -	- -	- -	1,079	1,243	34,000	3 12	0 8	3 20	3 12	0 8	3 20
2	Lines and Works, 6,378 Land and Houses, 2,202	-	190	1,010	803	706	330	11,619	0 5	2 33	2 38	0 5	2 33	2 38
3	9,220	- -	- -	- -	- -	578	1,104	10,902	0 62	0 28	1 10	0 62	0 28	1 10
4	39,367	- -	- -	- -	- -	1,310	323	41,500	4 1	1 22	5 23	4 1	1 22	5 23
5	189,247	- -	10,715	- -	9,925	8,386	8,849	227,122	6 23	5 76	12 19	4 16	5 76	10 12
6	—	—	—	—	—	—	—	—	-	-	-	-	-	
7	- -	Tramway acquired by the Local Board for a nominal sum					- -	- -	0 44	3 30	3 74	-	-	-
8	12,218	12,507	- -	- -	- -	- -	- -	24,725	0 52	4 67	5 39	0 52	4 67	5 39
9	(b)25,000 (c)1,206	- -	- -	4,020	1,660	- -	- -	31,886						
10	22,108	- -	2,216	- -	2,584	2,121	1,498	30,527	0 34	2 45	2 79	0 34	2 45	2 79
11	33,618	- -	- -	4,800	2,485	1,016	- -	41,919	0 34	7 30	7 64	0 34	7 30	7 64
12	9,943	- -	- -	- -	- -	2,009	33	11,985	0 64	2 45	3 29	0 41	0 58	1 19
13	74,362	- -	2,484	- -	4,304	3,397	569	85,116	1 70	6 75	8 65	1 70	6 65	8 55
14	- -	- -	- -	- -	- -	- -	- -	- -	0 35	2 19	2 54	0 28	1 72	2 20
15	—	—	—	—	—	—	—	—	-	-	-	-	-	-
16	64,752	- -	4,980	- -	2,276	1,612	- -	73,620	1 74	3 3	4 77	1 74	3 3	4 77
17	22,621	- - -	Details of Capital Expenditure not given				- -	22,621	0 53	2 49	3 22	0 53	2 49	3 22
18	5,863	- -	- -	- -	- -	254	1,188	802	8,807	0 3	6 27	6 30	0 3	3 22	3 25
19	17,314	- -	1,100	- -	1,600	400	- -	20,414	0 31	2 57	3 8	0 31	2 57	3 8
20	14,500	- - -	Lump sum paid for complete undertaking				- -	14,500	0 60	2 28	3 8	0 60	2 28	3 8
21	8,795,710	47,780	675,472	369,386	560,501	536,023	433,956	11,418,828	365 55	523 68	889 43	334 53	426 32	761 5

PART I.—RETURN of Street and Road Tramways, showing Amount of Capital Authorised, Paid up,

NAME OF TRAMWAY, AND GAUGE. * Mechanical Power Authorised (subject in most cases to Board of Trade approval).	Special Acts, or Acts confirming Provisional Orders, relating to the Tramways.	CAPITAL AUTHORISED. By Shares.	CAPITAL AUTHORISED. By Loans.	CAPITAL AUTHORISED. TOTAL.	CAPITAL PAID UP. By Shares.	CAPITAL PAID UP. By Loans (including Debenture Stock).	CAPITAL PAID UP. TOTAL.	
SCOTLAND:		£.	£.	£.	£.	£.	£.	
Aberdeen District * 4 ft. 8½ ins.	35 & 36 Vict. c. 194 41 & 42 Vict. c. 234. 51 & 52 Vict. c. 99.	75,000	40,000	115,000	42,910	12,000	54,910	1
Dundee Street (Commissioners of Police).* 4 ft. 8½ ins.	35 & 36 Vict. c. 191 41 Vict. c. 94. 50 & 51 Vict. c. 72. 55 & 56 Vict. c. 235.	Commissioners' Return:						
		—	(a) 48,732	48,732	- -	(a) 48,732	48,732	2
		Lessees' Return:						
		33,728	- -	33,728	10,540	12,543	23,083	3
Edinburgh Northern * 4 ft. 8½ ins.	47 & 48 Vict. c. 241 50 & 51 Vict. c. 70.	120,000	30,000	150,000	105,000	26,020	131,020	4
Edinburgh Street * 4 ft. 8½ ins.	34 & 35 Vict. c. 89 36 & 37 Vict. c. 236. 37 & 38 Vict. c. 68. 38 & 39 Vict. c. 128. 44 & 45 Vict. c. 176. 45 & 46 Vict. c. 91. 45 & 46 Vict. c. 134. 55 & 56 Vict. c. 184.	375,000	93,750	468,750	300,000	36,550	336,550	5
Glasgow and Ibrox (Govan Commissioners of Police). * 4 ft. 7½ ins.	40 & 41 Vict. c. 192 41 & 42 Vict. c. 232.	Govan Commissioners' Return:						
		—	9,630	9,630	- -	9,630	9,630	6
		Mr. A. B. Allan's Return:						
		—	(b) 1,675	1,675	- -	(b) 1,675	1,675	7
Glasgow Corporation * 4 ft. 7½ ins.	33 & 34 Vict. c. 175 34 & 35 Vict. c. 108. 35 & 36 Vict. c. 121. 35 & 36 Vict. c. 198. 38 & 39 Vict. c. 97. 38 & 39 Vict. c. 123. 42 & 43 Vict. c. 122. 47 Vict. c. 25. 48 & 49 Vict. c. 156. 54 & 55 Vict. c. 176.	Corporation Return:						
		—	500,000	500,000	- -	390,366	390,366	8
		Lessees' Return:						
		(c) 68,835	- -	68,835	(c) 68,835	- -	68,835	9
Greenock and Port Glasgow 4 ft. 7½ ins.	50 & 51 Vict. c. 177	40,000	10,000	50,000	29,930	- -	29,930	10
Greenock Street (Board of Police) 4 ft. 8½ in.	34 & 35 Vict. c. 95 38 & 39 Vict. c. 113. 40 & 41 Vict. c. 193.	- -	50,000	50,000	- -	31,530	31,530	11
Paisley * 4 ft. 7½ ins.	48 & 49 Vict. c. 102	20,000	6,666	26,666	8,785	2,200	10,985	12
Rothesay 4 ft.	43 & 44 Vict. c. 173	30,000	3,450	33,450	16,090	3,450	19,540	13
Stirling and Bridge of Allan 4 ft. 8½ ins.	35 & 36 Vict. c. 158	20,000	- -	20,000	15,470	- -	15,470	14
Vale of Clyde * 4 ft. 7½ ins.	34 & 35 Vict. c. 95 34 & 35 Vict. c. 108. 38 & 39 Vict. c. 113. 38 & 39 Vict. c. 123. 39 & 40 Vict. c. 65. 51 & 52 Vict. c. 144. 54 & 55 Vict. c. 38.	140,290	20,000	160,290	117,005	- -	117,005	15
	TOTAL, SCOTLAND	922,853	813,903	1,736,756	714,565	574,696	1,289,261	16

(a) Amount expended by the Commissioners on and incident to the construction of the tramways.
(b) Amount expended. (c) Amount of capital expenditure returned by lessees.

and Expended; Length of Tramway Authorised and Open, &c., to 30th June 1893—*continued.*

	CAPITAL EXPENDED.								Length of Tramway Authorised (exclusive of Expired Powers).			Length of Tramway Open for Public Conveyance of Passengers		
	On Lines and Works Open for Traffic (including Land, Buildings, &c.).	On Lines and Works in course of Construction (including Land, Buildings, &c.).	On Horses.	On Locomotive Engines.	On Cars.	Legal and Parliamentary.	Any other Expenses not included in the foregoing.	TOTAL.	Double Line.	Single Line.	TOTAL.	Double Line.	Single Line.	TOTAL.
	£.	£.	£.	£.	£.	£.	£.	£.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.
1	51,239	- -	4,318	- -	2,869	2,439	577	61,442	2 12	8 37	10 49	2 12	8 37	10 49
2	48,732	- -	- -	- -	- -	- -	- -	48,732	4 4	3 8	7 12	3 63	1 68	5 51
3	15,971	- -	1,949	5,550	2,344	- -	887	26,701						
4	147,966	- - -	Company cannot supply these details				- - -	147,966	3 50	0 32	4 2	2 42	0 7	2 49
5	279,980	- -	31,672	- -	13,729	27,507	24,741	377,629	14 59	4 51	19 30	14 17	4 25	18 42
6	8,872	- -	- -	- -	- -	- -	332	- -	9,204	0 61	0 8	0 69	0 61	0 8	0 69
7	1,675	- -	- -	- -	- -	- -	- -	- -	1,675	0 11	0 8	0 19	0 11	0 8	0 19
8	295,806	38,861	- -	- -	- -	52,247	3,452	390,366	29 51	1 43	31 14	29 49	0 48	30 17
9	- -	- -	58,620	- -	10,215	- -	- -	68,835						
10	34,703	- -	1,681	- -	1,530	3,180	3,374	44,468	2 63	0 5	2 68	2 63	0 5	2 68
11	29,156	- -	- -	- -	- -	2,256	- -	31,412	2 18	0 29	2 47	2 18	0 29	2 47
12	15,971	- -	1,814	- -	1,240	840	585	20,450	0 62	1 54	2 36	0 55	1 25	2 0
13	14,693	- -	696	- -	1,005	2,716	1,643	(*d*) 20,753	0 46	1 64	2 30	0 46	1 64	2 30
14	13,305	- -	450	- -	600	1,115	- -	15,470	0 43	2 68	3 31	0 15	3 14	3 29
15	67,241	- -	456	6,075	3,398	53,927	3,155	134,252	4 34	0 8	4 42	4 12	0 30	4 42
16	1,025,310	38,861	101,656	11,625	36,930	146,559	38,414	1,399,355	66 34	25 15	91 49	63 64	22 48	86 32

(*d*) Less sums written off for depreciation.

PART I.—RETURN of Street and Road Tramways, showing Amount of Capital Authorised, Paid up,

NAME OF TRAMWAY, AND GAUGE. * Mechanical Power Authorised (subject in most cases to Board of Trade approval).	Special Acts, or Acts confirming Provisional Orders, relating to the Tramways.	CAPITAL AUTHORISED. By Shares.	CAPITAL AUTHORISED. By Loans.	CAPITAL AUTHORISED. TOTAL.	CAPITAL PAID UP. By Shares.	CAPITAL PAID UP. By Loans (including Debenture Stock).	CAPITAL PAID UP. TOTAL.	
IRELAND:		£.	£.	£.	£.	£.	£.	
Belfast and Ligoniel (*a*) 4 ft. 8½ ins.	Order of Lord Lieutenant in Council, 1892.	7,500	2,500	10,000	3,450	- -	3,450	1
Belfast Street 4 ft. 8½ ins.	35 & 36 Vict. c. 193 36 & 37 Vict. c. 233. 38 & 39 Vict. c. 132. 41 & 42 Vict. c. 235. 43 & 44 Vict. c. 75. 47 & 48 Vict. c. 126. 51 & 52 Vict. c. 79. Order of Lord Lieutenant in Council, 1892.	376,000	94,000	470,000	245,000	50,000	295,000	2
Blackrock and Kingstown 5 ft. 3 ins.	46 & 47 Vict. c. 104	No Return received. Now merged in Dublin Southern District.					—	3
Blessington and Poulaphuca * 5 ft. 3 ins.	Order of Lord Lieutenant in Council, 1889. Extension Order, 1892.	20,000	5,000	25,000	—	—	—	4
Castlederg and Victoria Bridge * 3 ft.	46 & 47 Vict. c. 105	20,000	7,000	27,000	19,080	4,960	24,040	5
Cavehill and Whitewell * 4 ft. 8 ins.	Order of Lord Lieutenant in Council, 1881. Cavehill and Whitewell Tramway (Amendment) Order, 1893.	15,000	5,000	20,000	11,703	2,000	13,703	6
Dublin and Blessington * 5 ft. 3 ins.	Orders of Lord Lieutenant in Council, 1880, 1882, 1883, and 1887. 46 & 47 Vict. c. 30.	100,000	20,000	120,000	97,063	- -	97,063	7
Dublin and Lucan * 3 ft.	Order of Lord Lieutenant in Council, 1880.	30,000	10,000	40,000	29,991	5,500	35,491	8
Dublin Southern District 5 ft. 3 ins. and 4 ft.	41 & 42 Vict. c. 159 46 & 47 Vict. c. 232. 50 & 51 Vict. c. 43.	70,000	17,500	87,500	70,000	- -	70,000	9
Dublin United * 5 ft. 3 ins.	34 & 35 Vict. c. 88 36 & 37 Vict. c. 91. 38 & 39 Vict. c. 209. 39 & 40 Vict. c. 233. 41 & 42 Vict. c. 149. 41 & 42 Vict. c. 158. 43 & 44 Vict. c. 169. 44 & 45 Vict. c. 140. Orders of Lord Lieutenant in Council, 1885 and 1892.	600,000	150,000	750,000	548,710	87,200	635,910	10
Galway and Salt Hill 3 ft.	40 & 41 Vict. c. 237	35,000	- -	35,000	15,990	- -	15,990	11
Giant's Causeway, Portrush, and Bush Valley.* 3 ft.	43 & 44 Vict. c. 197 48 & 49 Vict. c. 166.	50,000	25,000	75,000	20,500	22,175	42,675	12
Londonderry (City of)* 4 ft. 8½ ins.	Order of Lord Lieutenant in Council 1893.	10,000	- -	10,000	500	- -	500	13
Lucan, Leixlip, and Celbridge * (*b*) 3 ft.	Order of Lord Lieutenant in Council, 1887.	25,000	8,333	33,333	10,000	- -	10,000	14
Portstewart * (*b*) 3 ft.	Order of Lord Lieutenant in Council, 1880.	5,000	1,666	6,666	5,000	1,666	6,666	15
Sydenham District (Belfast) * 4 ft. 8½ ins.	Orders of Lord Lieutenant in Council, 1885, 1887, 1889, and 1892.	9,000	3,000	12,000	9,000	500	9,500	16
Warrenpoint and Rostrevor * 3 ft.	Order of Lord Lieutenant in Council, 1875. 39 & 40 Vict. c. 120.	5,500	1,500	7,000	5,500	420	5,920	17
	TOTAL, IRELAND	1,378,000	350,499	1,728,499	1,091,487	174,421	1,265,908	18
	TOTAL, UNITED KINGDOM	11,200,049	5,729,083	16,929,132	9,401,310	4,307,039	13,708,349	19

(*a*) Line opened for traffic, 24th April 1893.

(*b*) No Return having been received this year, last year's Return is repeated.

and Expended; Length of Tramway Authorised and Open, &c., to 30th June 1893—*continued.*

	CAPITAL EXPENDED.								Length of Tramway Authorised (exclusive of Expired Powers).			Length of Tramway Open for Public Conveyance of Passengers.		
	On Lines and Works Open for Traffic (including Land, Buildings, &c.).	On Lines and Works in course of Construction (including Land, Buildings, &c.).	On Horses.	On Locomotive Engines.	On Cars.	Legal and Parliamentary.	Any other Expenses not included in the foregoing.	TOTAL.	Double Line.	Single Line.	TOTAL.	Double Line.	Single Line.	TOTAL.
	£.	£.	£.	£.	£.	£.	£.	£.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.	M. CH.
1	4,508	- -	- -	- -	- -	- -	12	4,520	0 27	1 10	1 37	0 27	1 10	1 37
2	260,309	- -	25,500	- -	17,340	- -	- -	303,149	7 78	12 13	20 11	7 78	12 13	20 11
3	—	—	—	—	—	—	—	—	-	-	-	-	-	-
4	—	—	—	—	—	—	—	—	-	-	-	-	-	-
5	16,347	- -	- -	3,800	3,344	868	299	24,658	0 6	7 6	7 12	0 6	7 6	7 12
6	9,545	- -	991	1,975	1,483	447	944	15,385	0 11	3 27	3 38	0 11	3 27	3 38
7	83,680	- -	- -	5,000	3,365	5,000	- -	97,045	0 50	15 18	15 68	0 50	15 18	15 68
8	27,166	- -	- -	5,086	3,197	- -	921	36,370	0 17	6 61	6 78	0 17	6 61	6 78
9	67,089	- -	2,002	- -	3,546	1,835	1,207	75,679	1 75	3 66	5 61	1 75	3 66	5 61
10	436,534	- -	31,336	- -	30,470	9,972	126,646	634,958	24 60	8 60	33 40	24 45	8 63	33 28
11	12,860	- -	300	- -	1,110	1,720	- -	15,990	0 10	2 0	2 10	0 10	2 0	2 10
12	33,164	- -	- -	2,754	2,460	4,570	2,364	45,312	0 60	8 0	8 60	0 60	8 0	8 60
13	- -	- -	- -	- -	- -	- -	- -	- -	0 9	1 6	1 15	-	-	-
14	8,850	- -	- -	850	300	- -	- -	10,000	0 10	5 20	5 30	0 2	1 40	1 42
15	5,194	- -	- -	1,568	335	- -	- -	7,097	-	1 68	1 68	-	1 68	1 68
16	9,187	- -	- -	- -	- -	315	215	9,717	0 39	1 19	1 58	0 39	1 19	1 58
17	5,899	- -	194	- -	65	131	- -	6,089	-	3 24	3 24	-	3 24	3 24
18	980,132	- -	60,823	21,033	67,015	24,858	132,608	1,285,969	37 52	80 78	118 50	37 20	76 15	113 35
19	10,801,152	86,641	837,451	402,044	664,446	707,440	604,978	14,104,152	469 61	630 1	1,099 62	435 57	525 15	960 72

PART II. - - - - - - - - -

RETURN of STREET and ROAD TRAMWAYS, authorised by Parliament, showing the GROSS and the Number of Miles Run by CARS, during the Year ended 30th June 1893,

NAME OF TRAMWAY.	Length of Tramway Open.	GROSS RECEIPTS. From Passengers.	From Parcels and Mails.	From Animals, Goods, and Minerals.	From all other Sources.	TOTAL.	WORKING EXPENDITURE. Maintenance of Way and Works.	Locomotive Power.	Animal Power.	Repairs and Renewals of Engines.	Renewals, &c., of Horses.	Repairs and Renewals of Cars.	
ENGLAND AND WALES:	M. CH.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	
Accrington Corporation (Lessees' Return.)	5 31	13,819	168	–	353	14,340	1,301	3,546	- -	1,741	- -	316	1
Haslingden and Rawtenstall Extension.	4 5												
Barrow-in-Furness - - -	5 40	5,123	–	–	134	5,257	247	2,002	- -	665	- -	229	2
Bath - - - - - - -	No Return received.	–	–	—	—	—	—	—	—	—	—		3
Birkdale and Southport - -	3 71	2,951	–	–	240	3,191	136	- -	1,012	- -	- -	90	4
Birkenhead Corporation - -	6 71	No Return received from the Lessees.				—	—	—	—	—	—	—	5
Birmingham and Aston - -	3 66	Cars, 20,378 Omnibuses, 1,300	26	–	2,825	24,529	1,406	3,562	737	3,414	72	990	6
Birmingham Corporation (portion).	1 2												
Birmingham and Midland - -	9 0	17,000	–	–	939	17,939	1,419	4,566	117	2,163	- -	649	7
Birmingham Corporation (portion).	1 75												
		Steam: *80,695*	–	–	*984*	*81,679*	*8,735*	*23,470*	- -	*9,139*	- -	*2,093*	8
		Horse: *28,789*	–	–	*700*	*29,489*	*423*	- -	*19,585*	- -	*956*	*1,226*	9
Birmingham Central - - -	8 14	Cable: *33,663*	–	–	*230*	*33,893*	*461*	*6,434*	- -	*3,619*	- -	*1,215*	10
Birmingham Corporation (portion).	16 49	Electric: *9,468*	–	–	*155*	*9,623*	*956*	*3,583*	- -	*2,642*	- -	*582*	11
		152,615	–	–	2,069	154,684	10,575	33,487	19,585	15,460	956	5,116	12
Birmingham Corporation - -	Tramways leased. Traffic included in "Birmingham and Aston," "Birmingham and Midland," and "Birmingham Central," Returns.												13
Blackburn and Over Darwen -	5 15	8,856	296	–	200	9,352	2,472	- -	- -	805	- -	381	14
Blackburn Corporation - - (Lessees' Return.)	8 40	14,120	124	–	535	14,779	719	3,025	2,608	748	38	431	15
Blackpool Corporation (*g*) - - (Lessees' Return.)	1 79	4,638	3	–	214	4,855	704	456	- -	598	- -	215	16
Bolton and Suburban - - - (Lessees' Return.)	15 42	23,859	158	–	- -	24,017	- -	- -	11,310	- -	1,400	850	17
Bootle Corporation - - -	Tramways leased. Traffic included in "Liverpool Corporation" Return.						—	—	—	—	—	—	18
Bradford and District (formerly Shelf).	Traffic suspended.	–	–	—	—	—	—	—	—	—	—	—	19
Bradford Corporation - - -	12 27	(*i*) Bradford Tramways and Omnibus Company's Return (Mileage, 10 M 27 CH.): 30,722	160	–	526	31,408	107	12,375	2,223	2,064	480	425	20
North Bierley Local Board -	3 66												
Shelf - - - - - -	0 57	Bradford and Shelf Tramway Company's Return (Mileage, 6 M. 43 CH.): 11,193	60	–	469	11,722	- -	1,209	- -	659	- -	- -	21
Brighton and Shoreham (*l*) -	4 42	2,310	–	–	60	2,370	215	- -	1,113	- -	65	93	22
Bristol (*m*) - - - - -	14 7	61,505	388	–	1,135 Carriage Department, 21,078	84,630	2,344	- -	22,586	- -	3,832	4,837	23
Burnley and District - - -	7 12	13,289	324	–	278	13,891	1,110	1,286	- -	1,491	- -	445	24
Bury, Rochdale, and Oldham -	27 0	32,764	309	–	1,252	34,325	2,434	12,389	- -	6,079	- -	1,013	25
Oldham Borough (portion) -	3 33												
Cambridge Street - - -	2 54	3,602	–	75	226	3,903	360	- -	- -	- -	158	201	26
Cardiff (*o*) - - - - -	7 14	49,942	–	–	621	50,563	1,571	- -	24,202	- -	1,681	2,663	27
Cardiff District and Penarth Harbour.	2 33												

(*a*) Estimate. (*b*) Including omnibuses.
(*c*) Including depreciation, 2,306*l.*; debenture interest, 1,681*l.*; surplus, 413*l.*; corporation rent of tramways, 1,212*l.* (*d*) Provided by contract.
(*e*) Including 40 omnibuses. (*f*) Four of these cars are "open" cars, and are not used at all now.
(*g*) This Tramway is now worked by the Local Authority, and the Return is for the period from 10th September 1892 to 30th June 1893.
(*h*) Two fixed engines for driving dynamos. (*i*) The figures given are generally estimated (*see* Note in Part I.) (*j*) Directors' fees only.

PART II.

RECEIPTS, WORKING EXPENDITURE, and NET RECEIPTS; the Number of PASSENGERS Conveyed, together with the Number of HORSES, ENGINES, and CARS at that Date.

	WORKING EXPENDITURE.								NET RECEIPTS.	Number of Passengers Conveyed (including Season or Composition Ticket-holders).	Number of Miles Run by Cars.	Working Stock.		
	Traffic Expenses.	Direction and Management.	Rent of Offices, Stables, and Sheds.	Rates, Taxes, and Tolls.	Compensation for Personal Injury.	Legal and Parliamentary.	Any other Working Expenses not included in the foregoing.	TOTAL.				Number of Horses.	Number of Locomotive Engines.	Number of Cars.
	£.	£.	£.	£.	£.	£.	£.	£.	£.					
1	1,599	505	1,191	438	3	- -	- -	10,640	3,700	1,974,920	267,334	- -	16	17
2	761	328	11	231	80	469	145	5,168	89	(a) 1,075,842	150,974	- -	8	8
3	—	—	—	—	—	-	—	—	—	—	—	—	—	—
4	554	133	28	32	- - -	54	167	2,206	985	386,313	67,588	21	- -	9
5	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	2,363	1,128	133	725	100	111	315	15,056	9,473	Cars, 4,018,793 Omnibuses, 176,781	Cars, 331,410 Omnibuses, 29,670	21	27	(b) 31
7	1,432	411	765	Included in previous Column.	160	146	499	12,327	(c) 5,612	4,079,993	260,153	(d) 10	24	24
8	*8,795*			*3,979*	*870*	*607*	*310*	*57,998*	- -	*14,797,495*	*1,225,996*	- -	*70*	*64*
9	*3,538*			*587*	*142*	*164*	*193*	*26,814*	- -	*3,880,442*	*647,652*	- -	- -	(e) *50*
10	*3,232*			*920*	*122*	*230*	*132*	*16,415*	- -	*6,341,753*	*641,161*	*399*	- -	*26*
11	*1,117*			*431*	*39*	*125*	*53*	*9,578*	- -	*1,257,399*	*140,993*	- -	- -	*14*
12	16,732	4,827	1,337	5,967	1,173	1,126	688	116,969	37,715	26,277,089	2,655,802	399	70	154
13	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14	2,452	495	87	252	474	- -	259	7,677	1,675	1,187,621	159,991	- -	11	(f) 14
15	2,247	569	124	291	267	10	88	11,165	3,614	2,319,385	336,914	60	14	27
16	872	60	33	412	- -	- -	124	3,474	1,381	665,112	95,718	- -	(h)	10
17	4,363	350	730	409	20	- -	- -	19,432	4,585	(a) 3,053,967	518,752	300	- -	28
18	—	—	—	—	—	—	—	—	—	—	—	—	—	—
19	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20	829	850	85	1,198	45	- -	1,000	21,681	9,727	4,941,120	563,196	60	28	39
21	3,078	(f) 150	- -	807	(k) 130	146	563	6,742	4,980	(a) 2,813,280	170,667	- -	13	13
22	337	148	- -	39	- -	- -	- -	2,010	360	277,200	64,160	26	- -	8
23	27,854	1,263	4,270	- -	191	150	1,019	68,346	16,284	12,646,958	1,005,890	806	- -	(n) 79
24	3,314	357	100	404	23	3	- -	8,533	5,358	1,527,355	193,844	- -	14	13
25	4,649	1,113	631	- -	82	62	694	29,146	5,179	(a) 4,765,673	781,303	- -	85	81
26	1,528	248	7	102	- -	1	69	2,674	1,229	628,018	90,000	21	- -	6
27	14,007	600	1,737	- -	- -	- -	- -	46,461	4,102	11,227,484	1,291,636	582	- -	(p) 67

(k) Insurance premiums.
(l) These receipts and working expenses are estimated. The accounts are made up to 31st October.
(m) The receipts and expenses include all those incident to the Carriage department, as well as the Tramways department.
(n) Also 15 omnibuses.
(o) These figures are for the year ending 30th September 1893.
(p) Including omnibuses.

Part II.—Return of Street and Road Tramways, showing the Gross Receipts

Name of Tramway.	Length of Tramway Open.	Gross Receipts. From Passengers.	From Parcels and Mails.	From Animals, Goods, and Minerals.	From all other Sources.	Total.	Working Expenditure. Maintenance of Way and Works.	Locomotive Power.	Animal Power.	Repairs and Renewals of Engines.	Renewals, &c., of Horses.	Repairs and Renewals of Cars.	
England and Wales—*continued.*	M. Ch.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	
Chester	2 30	6,568	–	67	223	6,858	105	– –	1,971	66	409	379	1
Chesterfield	No Return received.	–	–	—	—	—	—	—	—	—	—	2	
Coventry and District	No Return received.	Traffic suspended.		—	—	—	—	—	—	—	—	3	
Croydon	6 63	11,358	–	–	248	11,606	587	– –	3,199	– –	1,600	570	4
Derby	4 64	11,235	–	–	430	11,665	– –	– –	4,694	– –	500	585	5
Dewsbury, Batley, and Birstal	4 23	5,972	–	–	97	6,069	480	1,200	35	450	35	250	6
Drypool and Marfleet	1 27	2,664	–	–	3	2,667	139	1,504	– –	184	– –	81	7
Dudley and Stourbridge	5 12	7,613	–	–	416	8,029	666	2,176	– –	1,597	– –	325	8
Dudley, Sedgley, and Wolverhampton.	5 62	5,034	–	–	347	5,381	– –	1,363	244	785	– –	– –	9
Eccles Corporation (formerly Barton, &c., Local Board).	Tramways leased. Traffic included in "Manchester Carriage and Tramways Company's" Return.									—	—	—	10
Exeter	2 30	Cars, 1,150 Omnibuses, 789	–	–	185	2,124	129	– –	1,099	– –	548	309	11
Folkestone, Sandgate, and Hythe.	No Return received.	–	–	—	—	—	—	—	—	—	—	12	
Gateshead and District	6 40	9,354	68	–	324	9,746	1,315	– –	– –	1,237	– –	Included with Engines.	13
Gloucester	2 76	3,359	–	–	202	3,561	96	– –	993	– –	325	93	14
Gosport, Alverstoke, and Bury Cross.	Not open for traffic.	–	–	—	—	—	—	—	—	—	—	15	
Gravesend, Rosherville, and Northfleet.	2 20	1,813	–	–	129	1,942	– –	– –	906	– –	– –	34	16
Great Grimsby (*g*)	4 67	6,113	–	–	105	6,218	416	– –	2,006	– –	335	268	17
Harrow Road and Paddington	2 63	10,560	–	–	266	10,826	675	– –	3,323	– –	84	413	18
Hartlepools	Line closed.	—	–	–	—	—	—	—	—	—	—	—	19
Highgate Hill	Line closed.	—	–	–	—	—	—	—	—	—	—	—	20
Huddersfield Corporation (*h*)	18 44	23,377	321	–	531	24,229	3,109	6,682	– –	2,320	– –	1,658	21
Hull Street	No Return received.	–	–	—	—	—	—	—	—	—	—	22	
Ipswich	4 21	2,794	–	–	74	2,868	130	– –	925	– –	155	134	23
Keighley	2 28	2,270	6	–	975	3,251	232	– –	1,214	– –	172	64	24
Lancaster and District	4 24	5,042	154	–	80	5,876	137	– –	1,617	– –	– –	34	25
Lea Bridge, Leyton, and Walthamstow. (*k*)	4 64	19,831	–	–	815	20,646	126	– –	9,575	– –	– –	216	26
Leamington and Warwick	3 0	5,507	181	–	372	6,060	448	– –	3,023	– –	300	483	27
Leeds (Company)	14 13	43,137	294	–	1,260	44,691	5,145	6,248	14,227	Included in Col. 2.	870	2,619	28
Leeds Corporation	3 7	No Return received from W. S. Graff Baker, who is stated to work the line.								—	—	—	29
Leicester	8 74	36,462	–	–	1,158	37,620	1,708	– –	13,892	– –	1,500	1,942	30
Lincoln	1 64	2,112	–	–	73	2,185	– –	– –	532	– –	176	68	31
Liverpool Corporation	*28 69*												
Bootle Corporation	*3 20*												
Walton Local Board	*3 20*	Cars, 215,098 Omnibuses, 64,469	–	2,903	4,395	286,865	2,196	– –	120,465	– –	11,862	11,178	32
Wavertree Local Board	*1 10*												
West Derby Local Board	*5 23*												
Total	41 62												
Llanelly (*r*)	0 78	*1,101*	–	–	– –	*1,101*	*Worked in connection with posting and omnibus business, so cannot*						33
London	23 20	331,092	–	–	5,052	336,144	27,312	2,941	100,336	– –	15,893	5,687	34
London, Camberwell, and Dulwich.	Not open for traffic.	–	–	—	—	—	—	—	—	—	—	35	
London, Deptford, and Greenwich.	4 72	24,923	–	–	515	25,438	1,608	– –	5,420	– –	932	1,203	36
London Southern (*p*)	5 60	15,892	–	–	372	16,264	900	– –	6,571	– –	668	694	37
London Street	13 37	133,596	–	–	1,962	135,558	5,409	– –	46,495	– –	4,589	3,833	38

(*a*) Estimate. (*b*) Also 17 omnibuses and brakes. (*c*) Also seven omnibuses and one brake. (*d*) Insurance premium.
(*e*) The figures given under the head of expenditure represent the amounts actually paid, or owing for, on 30th June 1893. They are, however, exceptionally heavy, as they include a number of debts which were incurred prior to 16th June 1890, and which were paid by the present owners.
(*f*) Also three omnibuses. (*g*) These figures are for the year ending 30th Septemper 1893. (*h*) This tramway is worked by the Local Authority.
(*i*) For carting purposes. (*k*) These figure are for the year ending 31st October 1893.

Working Expenditure, and Net Receipts, &c., to 30th June 1893—*continued.*

	WORKING EXPENDITURE.								Net Receipts.	Number of Passengers Conveyed (including Season or Composition Ticket-holders).	Number of Miles Run by Cars.	Working Stock.		
	Traffic Expenses.	Direction and Management.	Rent of Offices, Stables, and Sheds.	Rates, Taxes, and Tolls.	Compensation for Personal Injury.	Legal and Parliamentary.	Any other Working Expenses not included in the foregoing.	Total.				Number of Horses.	Number of Locomotive Engines.	Number of Cars.
	£.	£.	£.	£.	£.	£.	£.	£.	£.					
1	1,320	391	- -	302	131	1	255	5,330	1,528	(a) 450,000	(a) 193,000	71	- -	(b) 11
2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
4	4,215	513	- -	274	35	- -	- -	10,993	613	1,990,359	263,524	120	- -	13
5	3,394	471	175	225	- -	- -	2	10,046	1,619	2,678,183	255,642	107	- -	(c) 18
6	1,075	200	60	324	- -	- -	- -	4,109	1,960	1,305,000	145,700	1	9	13
7	560	214	77	75	(d) 124	- -	109	3,067	*Loss, 400*	(a) 852,480	155,287	- -	7	8
8	946	250	- -	227	- -	31	397	6,615	1,414	1,827,227	111,259	- -	10	8
9	882	279	22	132	- -	- -	315	4,022	1,359	457,543	70,716	- -	5	5
10	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11	921	- -	234	- -	- -	- -	463	(e) 3,703	*Loss, 1,579*	342,085	(a) 43,000	37	- -	(f) 3
12	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13	2,583	459	495	- -	- -	7	1,880	7,981	1,765	1,572,064	178,563	- -	15	16
14	1,242	110	75	- -	- -	- -	114	3,048	513	806,150	138,074	33	- -	12
15	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16	499	- -	110	40	- -	59	- -	1,648	294	271,451	51,185	14	- -	6
17	1,086	300	372	- -	61	- -	- -	4,844	1,374	1,061,960	246,607	50	- -	16
18	3,762	406	122	205	110	49	29	9,178	1,648	1,967,936	218,851	110	- -	19
19	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20	—	—	—	—	—	—	—	—	—	—	—	—	—	—
21	2,658	675	162	789	750	- -	476	19,279	4,950	3,732,320	371,597	(i) 2	24	22
22	—	—	—	—	—	—	—	—	—	—	—	—	—	—
23	970	54	19	48	- -	- -	78	2,513	355	363,561	70,000	23	- -	8
24	952	151	- -	44	- -	- -	128	2,957	294	544,737	76,621	35	- -	7
25	1,772	210	70	153	- -	- -	134	4,127	1,749	548,210	105,480	80	- -	14
26	6,472	280	765	- -	308	- -	- -	17,742	2,904	3,313,600	408,184	190	- -	(l) 16
27	454	150	76	152	- -	- -	285	5,371	689	832,159	110,618	52	- -	14
28	7,228	850	608	873	49	90	1,261	40,068	4,623	(a) 8,282,304	875,437	363	25	69
29	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30	9,279	1,016	145	757	222	33	173	30,667	6,953	8,483,580	780,053	327	- -	45
31	682	55	- -	101	- -	- -	- -	1,614	571	367,082	48,024	14	- -	6
32	53,038	3,273	2,009	6,521	424	436	1,398	212,800	(m) 74,065	Cars, 26,890,675 Omnibuses, 8,851,652	Cars, 4,023,908 Omnibuses, 1,694,450	3,232	- -	(n) 177
33	*be ascertained*	- -	- -	- -	- -	- -	- -	- -	- -	*264,253*	*41,300*	*10*	- -	*5*
34	84,096	3,905	6,487	5,968	1,975	2,635	6,651	264,386	71,758	71,170,959	7,428,922	2,937	- -	(o) 345
35	—	—	—	—	—	—	—	—	—	—	—	—	—	—
36	10,014	900	200	472	258	- -	- -	21,007	4,431	5,649,292	533,018	217	—	24
37	4,860	400	584	- -	143	- -	- -	14,320	1,444	2,726,348	463,514	170	- -	20
38	43,189	1,200	5,983	Included in previous column.	1,568	- -	- -	112,266	23,292	24,745,863	2,466,113	1,186	- -	134

(*l*) Also 19 omnibuses. (*m*) The Lessees wish to deduct from this sum 855*l.* for interest, and 40,671*l.* for rent. (*n*) Also 88 omnibuses.
(*o*) Also 53 omnibuses. (*p*) The accounts are made up annually, and these figures are therefore for the year 1892.
(*r*) This Return being incomplete, the figures are not included in the general totals.

PART II.—RETURN of Street and Road Tramways, showing the Gross Receipts,

NAME OF TRAMWAY.	Length of Tramway Open.	GROSS RECEIPTS. From Passengers.	From Parcels and Mails.	From Animals, Goods, and Minerals.	From all other Sources.	TOTAL.	WORKING EXPENDITURE. Maintenance of Way and Works.	Locomotive Power.	Animal Power.	Repairs and Renewals of Engines.	Renewals, &c., of Horses.	Repairs and Renewals of Cars.
ENGLAND AND WALES—*continued.*	M. CH.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.
Manchester Carriage and Tramways Company.	25 9											
Eccles Corporation (formerly Barton, &c. Local Board).	2 16											
Manchester Corporation	30 39											
Moss Side Local Board	1 50											
Oldham Borough (portion)	4 76	365,820	2,900	–	5,813	374,533	7,170	– –	117,524	– –	22,017	17,622
Salford Corporation	12 60											
Withington Local Board	1 19											
TOTAL	78 29											
Manchester Corporation	Tramways leased. Traffic included in "Manchester Carriage and Tramways Company's" Return.									—	—	—
Matlock	0 40	481	–	–	– –	481	– –	(*b*) 45	– –	– –	– –	– –
Middlesbrough and Stockton	2 61	Cars, 2,987 Steamers, 1,779	–	–	127	4,893	190	(*c*) 1,542	1,540	– –	52	95
Morecambe	2 60	3,376	–	–	84	3,460	56	– –	989	– –	343	143
Moss Side Local Board	Tramways leased. Traffic included in "Manchester Carriage and Tramways Company's" Return.									—	—	—
Neath and District	3 77	4,250	13	– –	85	4,348	188	– –	1,321	– –	38	134
Newcastle-upon-Tyne Corporation. (Lessees' Return.)	11 36	30,175	172	–	223	30,570	665	– –	11,600	– –	1,073	1,752
Newport (Mon.) (Company's)	1 13	4,671	–	–	239	4,910	180	– –	1,201	– –	132	205
Newport, Mon. (Corporation)	Not open for traffic.		–	–	—	—	—	—	—	—	—	—
Northampton Street	5 33	6,748	–	–	451	7,199	61	– –	2,427	– –	494	314
North Bierley Local Board	Tramways leased to Bradford and Shelf Tramways Company (Limited). For traffic, *see* "Bradford Corporation" Return.											
North Metropolitan	51 55	442,055	–	–	13,963	456,018	29,831	– –	142,720	– –	24,542	8,580
North Shields and Tynemouth District.	2 46	2,072	–	–	108	2,180	80	330	277	325	226	63
North Staffordshire	7 0	18,248	99	–	259	18,606	1,099	1,914	42	1,319	– –	254
Nottingham and District	10 40	29,436	–	–	682	30,118	1,241	– –	13,463	– –	1,688	954
Oldham Borough (Corporation)	Tramways leased. Traffic included partly in "Bury, Rochdale, and Oldham" Return, and partly in "Manchester Carriage and Tramways Company's" Return.											
Oxford (City of) and District	4 2	10,857	–	–	230	11,087	1,331	– –	2,297	– –	396	– –
Plymouth Corporation (*f*)	3 30	1,248	–	–	18	1,266	– –	– –	632	– –	– –	3
Plymouth, Stonehouse, and Devonport. (*g*)	2 24	14,643	–	–	229	14,872	464	– –	5,277	– –	542	597
Pontypridd and Rhondda Valley	No Return received.		–	–	—	—	—	—	—	—	—	—
Poole and Bournemouth	Not open for traffic.		–	–	—	—	—	—	—	—	—	—
Portsmouth Street (including Borough of Portsmouth, &c.) (*g*)	15 27	41,111	–	–	2,847	43,958	2,547	– –	15,954	– –	1,583	2,327
Preston Corporation and Fulwood Local Board. (Lessees' Return.)	6 26	10,684	–	–	286	10,970	– –	– –	4,460	– –	– –	570
Reading	2 28	5,388	–	–	179	5,567	512	– –	2,116	– –	186	204
Rossendale Valley	6 47	7,684	58	–	147	7,889	427	2,149	– –	645	– –	135
St. Helens and District	10 62	9,029	38	–	327	9,394	1,957	– –	22	981	– –	324
Salford Corporation	Tramways leased. Traffic included in "Manchester Carriage and Tramways Company's" Return.									—	—	—
Sheffield Corporation (Lessees' Return.)	9 34	37,339	–	–	787	38,126	4,539	– –	15,808	– –	3,142	1,111

(*a*) Estimate. (*b*) Cable system, with two stationary engines. (*c*) Cost of working ferry steamers. (*d*) Two ferry steamers are in use.
(*e*) Also seven omnibuses. (*f*) The tramway had only been worked for a very short period. (This is a case in which the Local Authority works the tramway).
(*g*) These figures are for the year ending 30th September 1893. (*h*) Average.

Working Expenditure, and Net Receipts, &c., to 30th June 1893—*continued.*

WORKING EXPENDITURE.								NET RECEIPTS.	Number of Passengers Conveyed (including Season or Composition Ticket-holders).	Number of Miles Run by Cars.	Working Stock.		
Traffic Expenses.	Direction and Management.	Rent of Offices, Stables, and Sheds.	Rates, Taxes, and Tolls.	Compensation for Personal Injury.	Legal and Parliamentary.	Any other Working Expenses not included in the foregoing.	TOTAL.				Number of Horses.	Number of Locomotive Engines.	Number of Cars.
£.	£.	£.	£.	£.	£.	£.	£.	£.					
102,746	8,648	2,767	8,875	3,353	242	5,613	296,577	77,956	43,898,400	(a) 7,945,856	3,982	- -	453
—	—	—	—	—	—	—	—	—	—	—	—	—	—
- -	105	-	- -	- -	- -	22	172	309	(a) 100,000	(a) 6,300	- -	(b)	3
425	411	206	- -	5	- -	59	4,525	368	Cars, 719,594 Steamers, 266,291	Cars, 103,431 Steamers, 33,524	36	(d)	9
773	125	30	66	- -	- -	208	2,733	727	(a) 810,240	(a) 55,690	40	- -	8
—	—	—	—	—	—	—	—	—	—	—	—	—	—
908	154	41	148	- -	- -	186	3,118	1,230	(a) 690,000	(a) 94,000	38	- -	10
4,417	985	261	898	800	30	4,895	27,376	3,194	3,808,625	586,193	278	- -	31
1,375	200	53	177	- -	- -	152	3,675	1,235	1,121,062	128,500	67	- -	(e) 8
—	—	—	—	—	—	—	—	—	—	—	—	—	—
887	616	- -	70	2	- -	178	5,049	2,150	1,461,966	150,891	79	- -	15
—	—	—	—	—	—	—	—	—	—	—	—	—	—
111,847	10,745	2,857	15,423	9,417	Included in previous Column.	1,982	357,944	98,074	79,732,696	7,962,786	3,792	- -	409
570	137	83	5	- -	3	121	2,220	*Loss*, 40	349,380	40,031	- -	5	5
5,005	1,136	48	485	340	- -	- -	11,642	6,964	3,148,088	291,970	1	22	21
2,940	789	95	623	20	18	568	22,399	7,719	4,851,903	594,972	278	1	36
—	—	—	—	—	—	—	—	—	—	—	—	—	—
2,452	600	60	105	- -	10	672	7,923	3,164	2,417,340	249,846	85	- -	16
487	55	87	2	- -	- -	- -	1,266	- -	293,062	(a) 29,930	91	- -	13
2,360	400	417	1,017	10	- -	- -	11,084	3,788	2,454,005	189,016	110	- -	27
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
11,010	550	1,652	- -	78	- -	- -	35,701	8,257	6,680,297	1,093,180	347	- -	68
2,088	200	165	180	- -	- -	2,115	9,778	1,192	(a) 2,000,000	257,811	(h) 110	- -	31
522	412	184	- -	- -	10	62	4,208	1,359	880,935	123,575	57	- -	6
1,172	498	73	112	- -	32	- -	5,303	2,586	1,133,825	176,587	- -	10	10
2,840	136	- -	282	163	212	242	7,164	2,230	1,314,608	167,693	1	9	10
—	—	—	—	—	—	—	—	—	—	—	—	—	—
3,569	1,050	369	1,566	- -	1	305	29,460	(i) 8,666	6,104,127	681,800	315	- -	(j) 45

(i) From this sum have to be deducted as far as the lessees are concerned, interest and mileage rent to the Corporation of Sheffield amounting to 3,985*l.*
(j) Also four omnibuses.

PART II.—RETURN of Street and Road Tramways, showing the Gross Receipts,

NAME OF TRAMWAY.	Length of Tramway Open.	GROSS RECEIPTS. From Passengers.	From Parcels and Mails.	From Animals, Goods, and Minerals.	From all other Sources.	TOTAL.	WORKING EXPENDITURE. Maintenance of Way and Works.	Locomotive Power.	Animal Power.	Repairs and Renewals of Engines.	Renewals, &c., of Horses.	Repairs and Renewals of Cars.	
ENGLAND AND WALES—*continued.*	M. CH.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	
Shelf	Tramways leased to "Bradford and Shelf Tramways Company, Limited."								For traffic *see* Bradford Corporation Return.			—	1
Southampton Street	5 3	15,795	–	–	617	16,412	428	– –	4,234	– –	479	1,238	2
South Eastern Metropolitan	2 45	10,421	–	–	222	10,643	187	– –	5,182	– –	– –	180	3
South Gosforth	0 59	9,354	21	–	68	9,443	202	– –	4,000	– –	345	406	4
South London	12 70	73,386	–	–	1,216	74,602	9,383	– –	– –	– –	2,917	3,166	5
Southport	6 42	10,520	110	–	638	11,268	794	– –	2,554	– –	393	215	6
South Shields Corporation (Lessees' Return.)	2 43	5,373	28	–	175	5,576	– –	– –	2,803	– –	80	261	7
South Staffordshire	22 51	26,270	147	414	372	27,203	3,089	5,703	387	3,456	– –	890	8
Stockport and Hazel Grove	3 35	6,034	54	–	350	6,438	358	– –	– –	– –	268	152	9
Stockton-on-Tees and District	6 23	4,992	–	–	239	5,231	110	380	820	269	60	67	10
Sunderland (Company)	3 76	12,753	–	–	786	13,539	642	– –	4,862	– –	457	412	11
Sunderland (Corporation)	2 27	Tramways leased. Traffic included in "Sunderland (Company's)" Return.							—	—	—	—	12
Swansea	5 39	14,565	37	–	251	14,853	726	– –	6,396	– –	498	774	13
Tong Local Board	Not open for traffic.		–	–	—	—	—	—	—	—	—	—	14
Wallasey	No Return received.		–	–	—	—	—	—	—	—	—	—	15
Walton-on-the-Hill Local Board	Tramways leased. Traffic included in "Liverpool Corporation" Return.							—	—	—	—	—	16
Wantage	2 38	876	109	894	93	1,972	156	– –	– –	30	– –	21	17
Wavertree Local Board	Tramways leased. Traffic included in "Liverpool Corporation" Return.							—	—	—	—	—	18
West Derby Local Board	Tramways leased. Traffic included in "Liverpool Corporation" Return.							—	—	—	—	—	19
West Metropolitan	10 12	27,809	–	–	798	28,607	1,923	– –	6,928	– –	1,477	973	20
Weston-super-Mare, Clevedon, and Portishead.	No Return received.		–	–	—	—	—	—	—	—	—	—	21
Whitworth Local Board	No Return received.		–	–	—	—	—	—	—	—	—	—	22
Wigan (Corporation) (Lessees' Return.)	5 39	6,104	–	–	– –	6,104	780	599	– –	526	– –	104	23
Wirral	2 79	4,481	–	–	108	4,589	274	– –	1,483	– –	234	224	24
Wisbech and Upwell (Great Eastern Railway Company).	7 61	1,042	42	1,457	– –	2,541	340	920	– –	165	– –	38	25
Withington Local Board	Tramways leased. Traffic included in "Manchester Carriage and Tramways Company's" Return.								—	—	—	—	26
Wolverhampton	8 55	11,061	249	–	185	11,495	487	– –	3,876	– –	299	749	27
Wolverton and Stony Stratford	2 20	1,655	37	–	35	1,727	44	172	– –	150	– –	75	28
Wolverton and Stony Stratford (Deanshanger Extension).	No Return received.		–	–	—	—	—	—	—	—	—	—	29
Woolwich and South East London.	4 77	15,532	–	–	345	15,877	603	– –	4,505	– –	802	694	30
Worcester	3 22	5,156	–	–	64	5,220	151	– –	2,420	– –	221	188	31
Wrexham District	3 25	949	2	–	– –	951	50	– –	283	– –	73	66	32
Yarmouth and Gorleston	3 8	5,203	–	–	150	5,353	418	– –	1,997	– –	165	62	33
York	3 8	3,657	–	–	138	3,795	203	– –	1,091	– –	114	89	34
TOTAL, ENGLAND AND WALES	761 5	2,802,839	7,156	5,810	88,221	2,904,026	154,574	113,771	821,746	50,332	112,971	98,554	35

(*a*) Also 17 omnibuses. (*b*) Also three omnibuses. (*c*) Insurance. (*d*) Estimates.
(*e*) Includes 962 *l.* paid to Corporation for rent and interest. (*f*) Estimate. (*g*) Also four omnibuses. (*h*) Also one omnibus.

Working Expenditure, and Net Receipts, &c., to 30th June 1893—*continued.*

	WORKING EXPENDITURE.								NET RECEIPTS.	Number of Passengers Conveyed (including Season or Composition Ticket-holders).	Number of Miles Run by Cars.	Working Stock.		
	Traffic Expenses.	Direction and Management.	Rent of Offices, Stables, and Sheds.	Rates, Taxes, and Tolls.	Compensation for Personal Injury.	Legal and Parliamentary.	Any other Working Expenses not included in the foregoing.	TOTAL.				Number of Horses.	Number of Locomotive Engines.	Number of Cars.
	£.	£.	£.	£.	£.	£.	£.	£.	£.					
1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	4,256	609	520	- -	6	- -	1,216	12,986	3,426	2,098,322	311,434	143	- -	26
3	2,476	160	103	136	15	44	- -	8,486	2,157	2,018,824	198,820	90	- -	10
4	1,610	350	200	58	25	- -	88	7,284	2,159	1,095,276	203,872	100	- -	12
5	21,141	1,515	835	638	1,133	225	26,634	67,637	6,965	14,536,938	1,609,472	731	- -	(a) 85
6	1,571	513	60	298	- -	13	202	6,613	4,655	1,274,286	187,368	70	- -	23
7	1,584	280	46	123	336	- -	81	5,594	*Loss, 18*	1,212,206	196,095	67	- -	(b) 10
8	7,548	1,498	107	503	(c) 400	95	354	24,030	3,173	4,196,428	484,462	7	36	34
9	4,749	- -	147	109	- -	- -	- -	5,783	655	(d) 1,086,239	(d) 131,500	70	- -	11
10	2,502	160	66	141	142	- -	- -	4,717	514	1,003,515	150,140	27	8	15
11	1,100	880	25	316	1	- -	128	8,823	(e) 4,716	2,257,203	265,527	108	- -	33
12	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13	2,151	1,035	127	649	51	19	190	12,616	2,237	2,522,156	362,640	141	2	25
14	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16	—	—	—	—	—	—	—	—	—	—	—	—	—	—
17	1,029	40	- -	34	- -	20	- -	1,330	642	36,371	(f) 12,480	- -	3	3
18	—	—	—	—	—	—	—	—	—	—	—	—	—	—
19	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20	8,099	774	536	982	515	- -	- -	22,207	6,400	4,817,067	666,402	258	- -	28
21	—	—	—	—	—	—	—	—	—	—	—	—	—	—
22	—	—	—	—	—	—	—	—	—	—	—	—	—	—
23	3,104	100	- -	273	80	77	136	5,779	325	726,884	108,577	- -	12	10
24	1,443	204	- -	143	- -	52	336	4,393	196	(f) 620,568	(f) 169,819	44	- -	7
25	577	- -	- -	88	- -	- -	9 (Goods claims).	2,137	404	105,586	35,213	- -	5	9
26	—	—	—	—	—	—	—	—	—	—	—	—	—	—
27	1,007	914	- -	426	15	15	26	7,814	3,681	1,486,740	213,630	92	- -	19
28	561	- -	8	27	- -	- -	94	1,131	596	285,219	15,448	- -	3	4
29	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30	5,676	934	63	219	- -	- -	121	13,617	2,260	2,636,065	333,522	166	- -	20
31	950	298	10	124	38	- -	23	4,423	797	751,827	159,871	55	- -	(g) 9
32	214	36	10	4	- -	- -	- -	736	215	63,552	(f) 17,800	10	- -	4
33	1,001	260	73	218	- -	- -	131	4,325	1,028	860,400	(f) 114,300	53	- -	10
34	1,098	136	56	- -	- -	5	101	2,887	908	873,032	119,360	37	- -	(h) 10
35	670,965	68,895	42,612	64,532	25,851	6,742	67,028	2,298,573	605,453	476,928,832	57,594,183	23,653	522	8,327

Part II.—Return of Street and Road Tramways, showing the Gross Receipts,

NAME OF TRAMWAY.	Length of Tramway Open.	GROSS RECEIPTS. From Passengers.	From Parcels and Mails.	From Animals, Goods, and Minerals.	From all other Sources.	TOTAL.	WORKING EXPENDITURE. Maintenance of Way and Works.	Locomotive Power.	Animal Power.	Repairs and Renewals of Engines.	Renewals, &c., of Horses.	Repairs and Renewals of Cars.	
SCOTLAND:	M. CH.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	£.	
Aberdeen District	10 49	18,951	–	–	685	19,636	635	–	7,500	–	141	795	1
Dundee Street (Commissioners of Police). (Lessees' Return.)	5 51	11,283	55	–	2,399	13,737	346	813	2,477	760	309	478	2
Edinburgh Northern	2 49	14,121	–	–	237	14,358	2,487	1,170 (Cable.)	–	Included in first Column.	–	Included in first Column.	3
Edinburgh Street	18 42	100,502	216	–	3,890	104,608	6,790	–	36,535	–	3,573	3,703	4
Glasgow and Ibrox	Tramways leased. Traffic included in "Glasgow Corporation" Return.							–	—	—	—	—	5
Glasgow Corporation (*b*)	30 17	247,615	5,236	–	8,015	260,866	5,149	–	108,573	–	18,374	7,945	6
Glasgow and Ibrox (Lessees' Return.)	1 8												
Greenock and Port Glasgow	2 68	5,553	–	–	151	5,704	14	–	2,555	–	–	143	7
Greenock Street (Board of Police)	Tramways leased. Traffic included in "Vale of Clyde" Return.						—	–	—	—	—	—	8
Paisley	2 0	2,406	–	–	213	2,619	–	–	1,006	–	91	43	9
Rothesay	2 30	3,524	25	–	123	3,672	201	–	898	–	195	174	10
Stirling and Bridge of Allan	3 29	2,747	105	–	170	3,022	437	–	1,491	–	–	98	11
Vale of Clyde	4 42	14,912	3	315	986	16,216	827	3,038	2,060	1,372	131	Included with engines.	12
Greenock Street	2 47												
TOTAL, SCOTLAND	86 32	421,614	5,640	315	16,869	444,438	16,886	5,021	163,095	2,132	22,814	13,379	13
IRELAND:													
Belfast and Ligoniel	Tramway worked by Belfast Street Tramways Company. Traffic included in that Company's Return.										—	—	14
Belfast Street	20 11	90,007	–	–	1,758	91,765	5,420	–	31,323	–	3,472	3,565	15
Belfast and Ligoniel	1 37												
Sydenham District	1 58												
Blackrock and Kingstown	No Return received.		–	–	—	—	—	–	—	—	—	—	16
Blessington and Poulaphuca	Not open for traffic.		–	–	—	—	–	–	—	—	—	—	17
Castlederg and Victoria Bridge	7 12	886	70	1,096	28	2,080	203	351	–	88	–	32	18
Cavehill and Whitewell	3 38	3,093	–	–	43	3,136	295	–	1,023	–	30	40	19
Dublin and Blessington	15 68	4,101	555	709	67	5,432	498	1,882	–	222	–	63	20
Dublin and Lucan	6 78	4,267	80	676	354	5,377	612	1,097	–	919	–	305	21
Lucan, Leixlip, and Celbridge	1 42												
Dublin Southern District	5 61	7,576	–	–	644	8,220	391	–	3,936	–	182	434	22
Dublin United	33 28	128,682	3,160	–	4,031	135,873	9,270	–	38,926	–	5,382	6,634	23
Galway and Salt Hill	2 10	1,532	–	–	39	1,571	74	–	483	–	70	180	24
Giant's Causeway, Portrush, and Bush Valley.	8 60	2,809	14	17	–	2,840	172	654	–	406	–	65	25
Londonderry (City of)	Not open for traffic.		–	–	—	—	—	–	–	—	—	—	26
Lucan, Leixlip, and Celbridge	Tramway worked by Dublin and Lucan Company. Traffic included in that Company's Return.									—	—	—	27
Portstewart	1 68	No Return received.		–	—	—	—	–	—	—	—	—	28
Sydenham District (Belfast)	Tramway worked by Belfast Street Tramways Company. Traffic included in that Company's Return.										—	—	29
Warrenpoint and Rostrevor	3 24	1,237	39	–	61	1,337	66	–	347	–	48	55	30
TOTAL, IRELAND	113 35	244,190	3,918	2,498	7,025	257,631	17,001	3,984	76,038	1,635	9,184	11,373	31
TOTAL, UNITED KINGDOM	960 72	3,468,643	16,714	8,623	112,115	3,606,095	188,461	122,776	1,060,879	54,099	144,969	123,306	32

(*a*) Also one omnibus. (*b*) Many of the items are only approximate estimates. (*c*) Estimates.
(*d*) Average. (*e*) Also two omnibuses.

Board of Trade, 1893.

Working Expenditure, and Net Receipts, &c., to 30th June 1893—*continued.*

	WORKING EXPENDITURE.								NET RECEIPTS.	Number of Passengers Conveyed (including Season or Composition Ticket-holders).	Number of Miles Run by Cars.	Working Stock.		
	Traffic Expenses.	Direction and Management.	Rent of Offices, Stables, and Sheds.	Rates, Taxes, and Tolls.	Compensation for Personal Injury.	Legal and Parliamentary.	Any other Working Expenses not included in the foregoing.	TOTAL.				Number of Horses.	Number of Locomotive Engines.	Number of Cars.
	£.	£.	£.	£.	£.	£.	£.	£.	£.					
1	4,142	475	25	404	- -	18	925	15,060	4,576	3,747,170	397,649	203	- -	(a) 21
2	2,216	415	372	Included in previous Column.	3	8	665	8,862	4,875	2,416,041	171,286	78	10	19
3	3,412	770	404	- -	145	- -	- -	8,388	5,970	3,048,163	295,916	- -	(Cable traction.)	16
4	15,369	1,955	1,140	2,252	602	2,186	2,458	76,563	28,045	15,425,656	1,584,931	856	- -	84
5	—	—	—	—	—	—	—	—	—	—	—	—	—	—
6	36,480	3,159	- -	8,858	1,524	- -	25,479	215,541	45,325	51,506,451	4,702,089	3,009	- -	225
7	960	100	210	182	48	77	84	4,373	1,331	1,016,239	129,600	94	- -	11
8	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9	1,014	37	90	33	- -	- -	37	2,351	268	615,186	110,084	32	- -	8
10	754	179	50	157	18	3	58	2,687	985	464,569	93,997	29	- -	16
11	345	122	- -	141	- -	- -	132	2,766	256	(c) 319,832	(c) 48,807	(d) 28	- -	(e) 7
12	1,500	838	296	526	43	120	140	10,891	(f) 5,325	3,535,823	308,694	27	10	22
13	66,192	8,050	2,587	12,553	2,383	2,412	29,978	347,482	96,956	82,095,160	7,843,053	4,356	20	429
14	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15	23,010	1,300	1,400	- -	238	- -	- -	69,728	22,037	18,776,257	1,963,911	850	- -	99
16	—	—	—	—	- -	—	—	—	—	—	—	—	—	—
17	—	—	—	—	—	—	—	—	—	—	—	—	—	—
18	326	- -	- -	19	- -	9	306	1,334	746	34,378	21,664	- -	3	(g) 5
19	571	164	156	36	- -	- -	40	2,355	781	283,792	74,422	32	2	7
20	481	377	63	16	- -	13	820	4,435	997	166,412	79,928	- -	7	(h) 10
21	729	205	26	60	- -	- -	365	4,318	1,059	239,261	67,790	1	6	(i) 13
22	1,150	605	144	- -	13	- -	50	6,905	1,315	826,915	210,941	91	- -	19
23	26,516	2,975	843	3,221	558	171	3,145	97,641	38,232	18,550,114	2,381,464	1,212	- -	156
24	468	48	53	55	25	- - -	- -	1,456	115	209,040	40,846	22	- -	7
25	348	165	47	20	216	27	7	2,127	713	91,111	26,000	- -	3	17
26	—	—	—	—	—	—	—	—	—	—	—	—	—	—
27	—	—	—	—	—	—	—	—	—	—	—	—	—	—
28	—	—	—	—	—	—	—	—	—	—	—	—	—	—
29	—	—	—	—	—	—	—	—	—	—	—	—	—	—
30	293	136	47	29	12	- -	3	1,092	245	88,237	35,047	8	- -	9
31	53,898	6,025	2,779	3,456	1,062	290	4,736	191,391	66,240	39,265,517	4,902,013	2,216	21	342
31	791,055	82,970	47,978	80,541	29,296	9,374	101,742	2,837,446	768,649	598.289.509	70,339,249	30,225	563	4,098

(*f*) Out of these net receipts 2,259*l.* was paid to the Greenock Board of Police under lease of Greenock Tramways which expired on 15th May 1893.
(*g*) Also 23 goods, mineral, and cattle wagons, and two brake vans. (*h*) Also 12 wagons and two vans.
(*i*) Also 14 open goods wagons, one timber truck and one lorry.

FRANCIS J. S. HOPWOOD.

TRAMWAYS (STREET AND ROAD).

RETURN of STREET and ROAD TRAMWAYS Authorised by Parliament, showing the Amount of CAPITAL Authorised, Paid up, and Expended; the Length of TRAMWAY Authorised, and the Length Open for the Public Conveyance of PASSENGERS, down to 30 June 1893; the GROSS RECEIPTS, WORKING EXPENDITURE, and NET RECEIPTS; the Number of PASSENGERS Conveyed; and the Number of MILES Run by Cars, during the Year ending 30 June 1893; together with the Number of HORSES, ENGINES, and CARS at that Date (in continuation of Parliamentary Paper, No. 7, of Session 2, 1892).

(*Mr. Burt.*)

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